



**REPORT OF THE *EX OFFICIO* SECRETARIAT FOR THE
49th MEETING OF THE SOUTH AMERICAN COMMISSION FOR
THE FIGHT AGAINST FOOT-AND-MOUTH DISEASE (COSALFA)**

Virtual Session

August 25, 2022

CONTENT

INTRODUCTION	03
I - SITUATION OF THE FOOT-AND-MOUTH DISEASE IN SOUTH AMERICA AND PANAMA	04
II - LEVEL OF COMPLIANCE WITH THE RESOLUTIONS OF THE 48TH COSALFA	07
Resolution I	
Program for the Eradication of Foot-and-Mouth Disease in Venezuela	07
Resolution II	
Regional Foot-and-Mouth Disease Antigen/Vaccine Bank - BANVACO	08
III - ADDITIONAL FOOT-AND-MOUTH DISEASE COOPERATION ACTIVITIES	09
1. Technical cooperation to Bolivia	09
2. Technical Cooperation to Brazil.....	09
3. Technical Cooperation to Colombia	09
4. Technical Cooperation to Ecuador	10
5. Technical Cooperation to Peru	10
6. Technical Cooperation to Venezuela.....	10
7. Permanent Veterinary Committee (CVP)	11
8. Andean Community of Nations (CAN)	11
9. World Organisation for Animal Health (WOAH).....	11
10. PANAFTOSA-PAHO/WHO Laboratories	11
a. OIE/FAO Reference Laboratory - LREF/PANAFTOSA-PAHO/WHO	11
b. Production Laboratory - LPRO/PANAFTOSA-PAHO.....	13

**REPORT OF THE *EX OFFICIO* SECRETARIAT FOR THE
49th MEETING OF THE SOUTH AMERICAN COMMISSION FOR
THE FIGHT AGAINST FOOT-AND-MOUTH DISEASE (COSALFA)**

(Working Document)

INTRODUCTION

The Report of *ex officio* Secretariat is submitted for consideration of the delegates of the countries to the COSALFA 49, as a working document for analysis and discussion of the advances in the eradication of foot-and-mouth disease observed during the period June 2021-June 2022.

This report includes a synthesis of the situation regarding the actions for foot-and-mouth disease (FMD) eradication and prevention in the countries of South America and Panama, jointly with an evaluation of the level of compliance of the countries and the Pan American Center for Foot-and-mouth disease (PANAFTOSA-PAHO/WHO) with the resolutions adopted in the 48th COSALFA. Additionally, the general technical cooperation activities are detailed, including the outcome of agreements and projects, as well as the interinstitutional and collaboration efforts with other cooperation agencies undertaken by PANAFTOSA-PAHO/WHO in support of the countries.

The foot-and-mouth disease situation in the region relies on the reports sent to PANAFTOSA-PAHO/WHO by the countries as well as on the information gathered by the Center while providing cooperation to the countries, complemented with the analysis of the relevant information published in different media.

The level of compliance with the Resolutions is based on the information collected by the *ex officio* Secretariat within the framework of the commitments to the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA), which can be complemented by delegates' contributions.

I. SITUATION OF THE FOOT-AND-MOUTH DISEASE IN SOUTH AMERICA AND PANAMA

In 2021, the countries of the region, except for Venezuela, consolidated their progress increasingly leaving behind the risk of foot-and-mouth disease, maintaining the status of free with or without vaccination recognized by WOA. In fact, in the 88th General Session of the World Assembly of National Delegates of May 2021, the WOA recognizes the new free zones without vaccination in Brazil such as the state of Parana, the area formed by the states of Acre and Rondônia, and municipalities of the states of Amazonas and Mato Grosso, and the state of Rio Grande do Sul. Besides, the protection zone in the border with Venezuela, designated high surveillance zone, and formed by a 15-kilometer strip including the municipalities of the departments of Arauca, Vichada and Boyacá, was recognized in Colombia.

The main focus regarding the regional risk remains in Venezuela and its border with Colombia, where the last outbreaks of the region were detected, associated, in this case, with serotype O. Therefore, PANAFTOSA/PAHO technical cooperation has prioritized Venezuela, particularly in an attempt to reinforce vaccination campaigns. To this effect, through the mediation of PANAFTOSA/PAHO, the public-private initiative FUNVESSA (Venezuelan Foundation for Animal Health Services), created with the primary objective of contributing to improve the implementation of herd vaccination against foot-and-mouth disease, was finally consolidated in January 2022. PANAFTOSA/PAHO identified several deficiencies in these campaigns, and they are expected to be resolved by the FUNVESSA working jointly with the official service (INSAI), and with the support of the newly created regional follow-up commission of the National Plan for the Eradication of Foot-and-Mouth Disease in Venezuela. Some of the main problems are deficiencies in the availability of vaccines, an outdated register, poor participation of small producers, shortage of personnel and resources for vaccination, and flaws in the quality control of vaccines. Also, it is necessary to strengthen all the components of surveillance, including reporting by animal owners, attention and shipment of samples, and laboratory diagnosis.

Colombia, on the other hand, has maintained its zoning strategy with two zones in the border with Venezuela recognized by the WOA as free with vaccination (I –northern border zone, and II – eastern border zone) jointly with the Protection Zone, which is looking to be recognized as free with vaccination. Colombia has a solid structure for passive surveillance treating a high number of cases of vesicular disease due to the occurrence of vesicular stomatitis. For active surveillance, Colombia conducted four serological samplings at zonal level (covering the four free zones with vaccination) plus others on immunity. These combined strategies help to confirm the absence of infection and foot-and-mouth disease virus transmission in its herd.

In the rest of the region, the countries are implementing their prevention and control strategies according to their status, so that free countries and zones without vaccination have a clear strategy focused on protecting their status. For instance, Chile – that in 2021 celebrated 40 years since the country was officially declared as foot-and-mouth disease-free without vaccination in 1981– implemented, as every year, control strategies in the cordillera grazing lands in summer pastures. Concurrently, Brazil has to maintain its status, particularly in the states newly recognized as free without vaccination, and not only prevent virus introduction but also control animal introduction from zones with a lower health status, such as those zones with vaccination. Brazil has also implemented a more specific surveillance and protection strategy in the Protection Zone in the border with Venezuela, in Pacaraima, Roraima. Countries such as Panama and Peru are also prioritizing the prevention strategies, and the latter also maintains serological sampling aimed at detecting the potential presence of the virus in higher risk zones.

The strategy of transition from the free status with vaccination to the free status without vaccination, involving particularly six countries of the region (Argentina, Bolivia, Brazil, Ecuador, Paraguay and Uruguay), has been discussed for years at the COSALFA. This strategy became relevant at regional level when in 2015, seven years ago, the 5th Extraordinary Meeting of the COSALFA approved the Technical Work Guide for the Last Stage of the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA) elaborated by PANAFTOSA/PAHO, at the countries' request.

Each country advances at a different pace with this withdrawal. Brazil, for instance, has a defined plan widely discussed with relevant players, the 2017-2026 Strategic Plan of the PNEFA. This plan defines a gradual transition from foot-and-mouth disease-free zones with vaccination to free zones without vaccination, aimed at achieving that the whole country can be free from foot-and-mouth disease without vaccination by 2026. Bolivia is also progressing in this transition and is preparing the request for the recognition of the Department of Beni as a free zone without vaccination, after vaccination was stopped in that zone. Ecuador has a plan for withdrawing the vaccine, aligned with the 2021-2025 Plan of Action of the PHEFA, maintaining vaccination in 2023 and foreseeing a future risk assessment to decide on the withdrawal of the vaccine.

Argentina is working on the consolidation of a bank of national vaccines (with regional strains in the first stage and extra regional ones for the following stage), as well as on the training of private veterinary entities and producers regarding passive surveillance and its importance in vesicular disease notification. The country maintains systematic vaccination in relevant zones including serotype C in this strategy. Continued vaccination against this serotype has to be reconsidered by the country since serotype C has not been detected in the region or at global level since 2004. Besides, vaccine production poses the risk of virus escape, as already pointed out by the OIE/FAO Reference Laboratory Network for Foot-and-Mouth Disease in 2017. Therefore, stopping serotype C vaccine production was recommended, as observed both at the COLSALFA 44 and in the World Assembly of National Delegates of the WOAHP in both resolutions of 2017. On the other hand, in the report sent to the COSALFA, Paraguay and Uruguay have not submitted their road map and schedule to advance in the last stage of the PHEFA.

At present, the region has 98.6% of bovine herds in zones recognized as foot-and-mouth disease-free by the WOAHP. Thirty five percent (35%) of them are free zones without vaccination and 65% with vaccination (Table 1 and Map 1).

Table 1. Health situation of foot-and-mouth disease in South America, June 2022

HEALTH SITUATION (recognized by the WOA)	SURFACE		HERDS OF BOVINES /BUFFALOS		TOTAL BOVINES/BUFFALOS	
	Km ²	%	Number	%	Number	%
Free WITHOUT vaccination	6,518,361	33.1	1,898,957	34.4	60,673,890	15.9
Free WITH vaccination	12,249,560	62.2	3,540,660	64.2	306,233,674	80.1
NOT Free	930,047	4.7	77,967	1.4	15,449,368	4.0
TOTAL	19,697,968	100	5,517,584	100	382,356,932	100

Map 1. Health situation of the countries in May 2022 according to the official recognition by the WOA



II. LEVEL OF COMPLIANCE WITH THE RESOLUTIONS OF THE 48th COSALFA

RESOLUTION I – PROGRAM FOR THE ERADICATION OF FOOT-AND-MOUTH DISEASE IN VENEZUELA

IT IS RESOLVED:

1. To request that PANAFTOSA-PAHO/WHO continues providing the necessary technical cooperation to Venezuela, in coordination with the countries of the COSALFA and considers conducting technical missions with regional experts to identify the situation both at field and laboratory level and follow up the recommendations. Also, to request that PANAFTOSA issues regular reports for the members of the COSALFA on the advance of the program.
2. To urge the INSAI to adopt all the procedures and necessary facilities for the complete execution of the National Plan for the Eradication of Foot-and-Mouth Disease, particularly, the activities recommended in Resolution I of COSALFA 47 which were postponed.
3. To ask the Ministry of People’s Power for Agriculture and Land of the government of the Bolivarian Republic of Venezuela to complete the recognition of the FUNVESSA, with PANAFTOSA-PAHO/WHO, before the beginning of the next foot-and-mouth disease vaccination cycle, to comply with the schedule for the international recognition as foot-and-mouth disease-free country by the WOA. H.
4. To urge the FUNVESSA to make every effort to implement its commitment to the vaccination program in the entire national territory during this year.
5. To ask the public and private sectors of the countries of the COSALFA to support the FUNVESSA in its mandate of being responsible for the execution of the vaccination cycles in the country.

LEVEL OF COMPLIANCE

PANAFTOSA/PAHO continued providing technical cooperation by promoting virtual meetings with both the National Institute of Integral Agricultural Health (INSAI) and the FUNVESSA. Also, a technical mission was conducted to evaluate and provide technical assistance for the implementation of the vaccination strategy.

In January 2022, the Ministry of People’s Power for Agriculture and Land signed a Cooperation Agreement between the INSAI and the FUNVESSA that recognizes the FUNVESSA as the enforcement arm of the health policies in the country in relation to foot-and-mouth disease vaccination cycles.

PANAFTOSA/PAHO elaborated and sent to the delegates of the COSALFA the reports of the vaccination cycles carried out in Venezuela. A Regional Commission was established to follow up the National Plan for the Eradication of Foot-and-Mouth Disease in Venezuela, with the aim of looking for the support of the public and private sectors of the countries of the region for the execution of the Foot-and-Mouth Disease Official Program (PROFA). This commission is formed by public and private sectors that showed their interest to participate, such as Brazil, Chile and Paraguay (public and private) and Peru (public). So far, the countries’ support for the actions developed in Venezuela has not been realized.

Resolution partially accomplished

RESOLUTION II –REGIONAL FOOT-AND-MOUTH DISEASE ANTIGEN/VACCINE BANK - BANVACO

IT IS RESOLVED:

1. To recognize the importance of the decision of the Government of Paraguay to sign its adherence to join the BANVACO on July 21, 2021.
2. To urge PANAFTOSA-PAHO/WHO to follow up the intentions expressed by the delegates of the public sector of Brazil, Bolivia, Ecuador, Guyana, Peru and Uruguay to establish a Regional Antigen/Vaccine Bank, summoning their representatives to a meeting in order to explore the operational conditions for BANVACO's operation.

LEVEL OF COMPLIANCE

In December 2021, PANAFTOSA-PAHO promoted the first virtual operative meeting where the conditions for BANVACO's operation were established, with the participation of the following countries of the region: Argentina, Bolivia, Brazil, Chile, Ecuador, Peru, Paraguay and Uruguay.

In virtue of the meeting, a schedule of activities was established for 2022 in order to advance in the operationalization of the Bank, in an interim fashion, through the Provisional Steering Committee [Comité Directivo Provisional (CDP)] together with BANVACO's Technical Advisory Committee.

On March 04, 2022, the 1st Ordinary Meeting of the Provisional Steering Committee (CDP) of the Regional Bank was carried out virtually, with the participation of Paraguay, as a full member, as well as those in the process of joining, such as Bolivia, Brazil, Chile, Colombia, Ecuador, Peru and Uruguay. On March 30, the 2nd Meeting of the CDP was carried out, and on May 26 the 3rd Meeting took place. Some of the agreed activities include relevant aspects such as the definition of a management and funding model of the BANVACO, and the necessary initial contributions to cover the fixed costs of the member countries at the time of joining. Additionally, PANAFTOSA/PAHO developed and posted BANVACO's website to provide access to information about this issue: <https://www.paho.org/es/panaftosa/banvaco>

Resolution accomplished

III. ADDITIONAL FOOT-AND-MOUTH DISEASE COOPERATION ACTIVITIES

1. Technical cooperation to Bolivia

PANAFTOSA-PAHO has provided technical cooperation to the SENASAG in the process of the recognition of the Department of Beni and the north of the Department of La Paz as free without vaccination by the WOA, assisting in the design of the serological study aimed at detecting the presence of foot-and-mouth disease virus transmission, if present in this zone, thus contributing to demonstrate the absence of virus infection in this area.

Likewise, in June 2022 PANAFTOSA-PAHO participated in the virtual course of surveillance and attention to suspected vesicular disease in Bolivia, with a presentation emphasizing the importance of early warning and early response in emergency situations of the disease due to reintroductions.

2. Technical Cooperation to Brazil

PANAFTOSA-PAHO continues providing technical cooperation to Brazil, within the framework of the 2017-2026 Strategic Plan of the National Program for the Eradication of Foot-and-Mouth Disease (PNEFA) of the Ministry of Agriculture, Livestock and Supply (MAPA), participating in meetings, training events and Working Groups.

In the period, PANAFTOSA-PAHO participated in virtual and in-person training and knowledge sharing events both in the public and the private sectors, at national and state level, including training for strengthening foot-and-mouth disease surveillance, emergency preparedness, support to laboratory diagnosis, risk analysis and discussion about the last stage of the PHEFA.

PANAFTOSA-PAHO is collaborating in the project coordinated by the MAPA for the creation and implementation of an information system aimed at supporting the management of an animal health emergency.

3. Technical Cooperation to Colombia

PANAFTOSA-PAHO continued providing technical cooperation to the ICA in the country's rezoning process after Colombia regained the status of free with vaccination. This cooperation has been provided in the field of seroepidemiological studies for detecting virus transmission and to assess the immune level of the bovine population and also to help in sustaining the differentiated vaccination strategy and reviewing the files for health certification as free from foot-and-mouth disease.

Moreover, in May 2022, PANAFTOSA-PAHO delivered an in-person course to improve the capacities of regional epidemiologists of the ICA in the use of Geographic Information Systems applied to Animal Health Surveillance.

Furthermore, PANAFTOSA-PAHO provided technical cooperation to conduct a risk characterization study of vesicular stomatitis using historical surveillance data.

4. Technical Cooperation to Ecuador

PANAFTOSA-PAHO maintained its cooperation actions within the framework of the Technical Cooperation Agreement with Agrocalidad for review, guidance, and provision of diagnostic kits/sets used for activities related to the National Program for the Eradication of Foot-and-Mouth Disease, to support surveillance and immunity and viral circulation studies for foot-and-mouth disease.

PANAFTOSA-PAHO helped to maintain the status of free with vaccination recognized by the WOA, supporting the design and the analysis of results of the serological study in the provinces bordering Colombia (Esmeraldas, Carchi, Imbabura and Sucumbíos) with the aim of detecting the presence of foot-and-mouth disease virus transmission, if present in this area, contributing to demonstrate the absence of infection caused by the foot-and-mouth disease virus in these regions.

Additionally, a mission to the field was conducted in June 2022 to assist in the execution of the sampling process for detecting foot-and-mouth disease virus transmission in the northern zone of continental Ecuador in order to monitor the animal health status in this region.

In addition, a professional from Agrocalidad was trained virtually in the use of the ELISA FMD gIII test for foot-and-mouth disease surveillance, in order to fulfill the laboratory work in the sampling process for foot-and-mouth disease virus circulation, where the new kit elaborated by PANAFTOSA/PAHO should be used.

In this period, on November 17, 2021, PAHO and AGROCALIDAD signed the 7th Amendment to the Agreement with the provision of new resources for a total of USD 117,200.00 for the technical cooperation of PANAFTOSA/PAHO to Ecuador.

5. Technical Cooperation to Peru

PANAFTOSA-PAHO provided technical cooperation to the SENASA, delivering a course on risk-based surveillance that included a review of the theoretical components included in this strategy and the hands-on tools to implement risk-based surveillance as well as the use of open access software, such as QGIS, R-Project and RStudio.

6. Technical Cooperation to Venezuela

In spite of the restrictions imposed by COVID 19 during this period of time, PANAFTOSA-PAHO continued providing technical cooperation to Venezuela by means of regular virtual meetings with the public sector, the INSAI, and the private sector, FUNVESSA, where strategies were discussed and defined to promote the political articulation for the recognition, by competent authorities of the country, to provide legality to the FUNVESSA and be recognized by the INSAI as a legal entity to comply with its function as the enforcement arm responsible for the vaccination cycles in the country, under the supervision of the INSAI, the Venezuelan health authority.

In January 2002, the Ministry of People's Power for Agriculture and Land concluded the Cooperation Agreement between the INSAI and the FUNVESSA, in which the FUNVESSA is recognized as the enforcement arm to support the health policies of the country regarding foot-and-mouth disease vaccination cycles.

In this period, PANAFTOSA-PAHO promoted several virtual meetings with the INSAI and the FUNVESSA to advance in the strengthening of the vaccination strategy and conducted a technical mission to evaluate and provide technical assistance to the country for the implementation of the vaccination strategy, emphasizing vaccine availability and quality control in the country.

In this respect, the Reference Laboratory for Foot-and-Mouth Disease (LREF) of PANAFTOSA/PAHO has provided assistance in the quality control process of the foot-and-mouth disease vaccine produced by the private sector of Venezuela.

7. Permanent Veterinary Committee (CVP)

PANAFTOSA-PAHO continues supporting the CVP, collaborating in the elaboration of a project aimed at strengthening the foot-and-mouth disease surveillance capacities of the veterinary services of the CVP member countries, with special attention in the border region, including preparedness for potential incursions of the foot-and-mouth disease virus in the region.

The project includes a component of virtual training, developed by PANAFTOSA-PAHO, that will be offered to Veterinaries of the Official and Private Veterinary Services of the countries of the Americas, to strengthen the regional capacity in the main strategies for an emergency response to foot-and-mouth disease.

8. Andean Community of Nations (CAN)

PANAFTOSA-PAHO has collaborated with the Coordination of Terrestrial and Aquatic Animal Health and Veterinary Products of the CAN in the elaboration and review of a cooperation project for surveillance and early detection of the foot-and-mouth disease virus and the strengthening of strategies for early response and better management of health emergencies in the countries of the CAN. The project includes the review and update of foot-and-mouth disease emergency plans in those countries.

9. World Organisation for Animal Health (WOAH)

Cooperation between PANAFTOSA-PAHO and the WOAH has continued. Experts participated in a virtual meeting of the ad hoc Group of foot-and-mouth disease status of the WOAH, as well as in different consultations made to this Group throughout the period. Likewise, PANAFTOSA-PAHO attended virtually to the 89th General Assembly of Delegates held in May 2022.

PANAFTOSA/PAHO participated actively in the activities of the OIE/FAO Network of Reference Laboratories for foot-and-mouth disease and collaborated in the review and update of the chapters on foot-and-mouth disease and vesicular stomatitis of the OIE Terrestrial Manual.

10. PANAFTOSA-PAHO/WHO Laboratories

a) OIE/FAO Reference Laboratory for the diagnosis of foot-and-mouth disease and vesicular stomatitis LREF/PANAFTOSA-PAHO/WHO

During the period June 2021 - June 2022, the LREF/PANAFTOSA-PAHO continued providing technical cooperation for the strengthening of regional harmonization activities for diagnostic procedures, validation of methodologies, and maintenance of quality systems.

The LREF responded to the requests of the countries of the region regarding reference materials (RM) for the monitoring, implementation, validation and confirmation of diagnostic tests for foot-and-mouth disease and differential diagnosis, promoting the distribution of positive and negative control sera, virus seeds, cell lines and viral RNA of FMD, vesicular stomatitis, Seneca virus A and blue tongue, used as positive standards for molecular biology.

The laboratory continued cooperating with the South American Network of National Reference Laboratories for Diagnosis and Vaccine Control, with a focus on diagnosis of vesicular and confounding diseases and control of foot-and-mouth disease vaccine, encouraging a participative approach and the promotion of information sharing between them.

The training program continued in a virtual manner for the countries of the region, conducting six activities jointly with the training team of the MAPA of Brazil, to train official veterinarians in the treatment of suspected vesicular disease. Besides, training was given to Ecuador, Colombia, Chile, Peru and Uruguay on diagnostic methods for vesicular and confounding diseases, particularly ELISA FMD gIII, viral neutralization, RT-qPCR and RT-PCR, with the objective of strengthening regional activities for the harmonization diagnostic procedures.

Likewise, the LREF received six professionals from the SENACSA-Paraguay and one professional from the INTA-Argentina, to be trained in serological/molecular diagnostic methods, RT-qPCR, RT-PCR and sequencing of the foot-and-mouth disease virus and other vesicular diseases, as well as “vaccine matching” by viral neutralization.

In May 2022, the LREF conducted a technical cooperation mission, within the framework of the PHEFA, in the National Unit of Laboratories (UNALAB) of Bolivia, to provide support in issues such as participation in proficiency tests, harmonization of diagnostic methods for foot-and-mouth disease and confounding diseases, as well as quality management and accreditation in compliance with ISO/IEC 17025 standards, as a mandatory requirement for international recognition of results. Also, UNALAB technicians were trained in the use of the new PANAFTOSA/PAHO kit, Elisa FMD gIII (3ABC), which was used for sampling in the region of Beni, with the aim of demonstrating the absence of foot-and-mouth disease virus circulation jointly with the WOA. H.

It is important to highlight the cooperation provided by the LREF in Venezuela, to support the national program for the eradication of foot-and-mouth disease, for the implementation of vaccine quality control tests (potency) at Laboratorios CALA, which provides vaccines for vaccination cycles.

In this period, the 2021 round of the Proficiency Test Program was carried out for the detection/typification of the foot-and-mouth disease virus and vesicular stomatitis virus and the control of foot-and-mouth disease vaccines, attended by 22 laboratories from 13 countries of the Americas, with satisfactory results for all the participating laboratories.

On the other hand, the LREF participated in an external quality control of diagnosis, which yielded 7 tests accredited by the CGCRE/INMETRO of Brazil (accreditation entity), extended to 4 additional tests in 2022, and in the XXXIII edition of proficiency tests, organized by the Pirbright Institute, UK, complying with all the requirements and receiving PCP stages 4 and 5, compatible as reference laboratory, in compliance with the criteria established by the WOA. H.

During this period, at the countries’ request, the LREF participated in some research projects, particularly in the performance study of 8 products used for foot-and-mouth disease virus inactivation in suspected foot-and-mouth disease field samples, in order to evaluate their

performance for virus inactivation (in an outbreak situation), before their shipment to the laboratory, and also, to evaluate the preservation of the nucleic acid of the material for future use in RT-qPCR/RT-PCR tests. The shipment of potentially infectious samples is highly expensive due to IATA requirements, since it poses a biosafety risk; therefore, the treatment to inactivate the virus in the sample in the field before transportation may be a crucial measure of risk mitigation and simplification of the shipment process, while allowing the manipulation of this material in level-2 laboratories, thus improving capillarity of diagnosis in the countries of the region.

Similarly, collaboration is provided for the study to monitor immune response, by viral neutralization, of a herd systematically vaccinated with the bivalent O1 Campos and A24 Cruzeiro vaccine, manufactured since 2017, without saponin as adjuvant. The aim of this project is to select serum samples to create a reference panel that will be used in other studies, as well as in proficiency tests. Also, a longitudinal analysis on the persistence of colostrum antibodies at the time of the primary vaccination series is also expected.

The laboratory represented the position of the region in international discussion forums, promoted by FAO and WOA, as well as in interactions with other international reference entities, through the participation in the “16th Annual Meeting of the OIE / FAO Network of Reference Laboratories for Foot-and-Mouth Disease”, presenting data on the current situation of foot-and-mouth disease in South America.

All regional reference activities were accomplished, including a confirmatory analysis of the result obtained by the SAG of Chile for the first case of Senecavirus A in 2022.

Finally, the LREF promoted the realization of the workshop “Sequencing of emerging pathogens and bioinformatic analyses”, held in PANAFTOSA/PAHO headquarters, with the participation of 25 professionals from laboratories of seven countries of South America - Argentina, Brazil, Chile, Colombia, Paraguay, Peru and Uruguay – with the aim of strengthening laboratory diagnostic capacity of veterinary service laboratories and encouraging the countries to implement routine genomic surveillance for emerging pathogens.

b) Production Laboratory - LPRO/PANAFTOSA-PAHO

The LPRO of PANAFTOSA/PAHO continued active with the production and delivery of reagents to the countries of the region, in order to support diagnosis, epidemiological studies and vaccine quality control to strengthen national foot-and-mouth disease programs within the scope of the PHEFA (Table 2).

TABLE 2. Number de Kits/Sets delivered to the countries by the LPRO, June 2021 - June 2022

KITS/SETS	PSE-001 ELISA FMD gIII	PSE-110 ELISA 3ABC	PSE-002 EITB (confirmatory)	PCV-004 CFL-FMD (O)	PCV-005 CFL-FMD (A)	PDP 003 TYPIFICATION
TOTAL	143	289	229	173	201	31

With each kit/set, it is possible to analyze a maximum of:

- *ELISA FMD gIII*: 880 samples/Kit
- *ELISA 3ABC*: 890 samples/kit
- *EITB (confirmatory)*: 132 samples/kit
- *CFL-FMD (O) and (A)*: 192 samples/Set
- *Typification*: 175 samples/Set

During this period, the LPRO continued providing assistance to the countries for the use and analysis of the results of the kits/sets produced and delivered by PANAFTOSA/PAHO. Likewise, the entire production quality system is constantly being implemented and validated.

The LPRO is taking part in a collaborative study with the Reference Laboratory of Pirbright, UK, in order to evaluate the performance of the PANAFTOSA/PAHO FMD gIII-multispecies Kit for use in the *in vitro* diagnosis of foot-and-mouth disease, in porcine samples.