



PAN AMERICAN HEALTH ORGANIZATION



WORLD HEALTH ORGANIZATION

# IX INTER-AMERICAN MEETING, AT THE MINISTERIAL LEVEL, ON FOOT-AND-MOUTH DISEASE AND ZONOSSES CONTROL

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EPIDEMIOLOGICAL SURVEILLANCE OF RABIES, EQUINE ENCEPHALITIS, FOOT-AND-MOUTH  
DISEASE AND OTHER VESICULAR DISEASES

Report on

EPIDEMIOLOGICAL SURVEILLANCE OF  
FOOT-AND-MOUTH DISEASE • 1975

## REPORT OF THE FOOT-AND-MOUTH DISEASE

### SURVEILLANCE PROGRAM

According to Resolution XV of the Eighth Inter-American Meeting at the Ministerial Level on Foot-and-Mouth Disease and Zoonoses Control (RICAZ-8), the Pan American Foot-and-Mouth Disease Center continued to promote the development of the epidemiological surveillance system for vesicular diseases, recommended to the countries in 1973 by the RICAZ-6. This report summarizes the progress made in this program during 1975.

#### Epidemiological Information from the Countries

The goals established in last year's report were not met. These goals referred to the introduction of the basic epidemiological surveillance system recommended at RICAZ-6 in all the countries of South America, Central American and Mexico.

Although all the countries of South America (affected area) and Mexico continued sending reports to the Center, the regularity of arrival and contents of the reports generally maintained last year's heterogeneous character. The countries of Central America and Panama have not as yet begun similar activities.

In April 1975, Venezuela began to send weekly reports. Unfortunately, Uruguay stopped sending weekly cables in August, with no explanations given. The other countries, with the exception of Bolivia, continued their bi-weekly reports. Bolivia sent monthly reports. As of 31 January 1976 the Center has received complete sets of reports for 1975 from Brazil, Chile, Paraguay and Mexico. Seven bi-weekly communications are missing from Argentina, 5 from Colombia, 2 from Ecuador and 3 from P e r u, and 5 monthly reports from Bolivia; Uruguay has sent no weekly reports since 22 August. Venezuela did not report during the months of January, February and March, and the Center has still not received information from the last 6 weeks of 1975. (See Table 1).

There was a significant improvement with respect to

the delay between the period being reported and the Center's receiving the reports, compared to previous years. As can be seen in Table 2 this period was less than 15 days for Chile, Ecuador, Paraguay, Uruguay and Venezuela, and for Colombia and Peru, about 2 weeks. This has resulted in a more timely publication of the Pan American Foot-and-Mouth Disease Center's report.

In Table 3, the situation of the affected area countries should be noted, with respect to the recommended basic surveillance system.

### The Center's Epidemiological Report

Due to the uneven character of the data received from the countries, the Center continued publishing its bi-weekly report in the same format as in 1974.

In addition to the regular country statistics, the report also included notes on the swine vesicular disease situation in Europe.

The occurrence of FMD epidemic outbreaks in the state of Santa Catarina, Brazil, and in the department of San Martin in Peru were duly reported, as was the isolation, after several years' disappearance of type C virus in the Federal Territory of Roraima, Brazil, a region which borders with Guyana and Venezuela.

Three times per year, summaries were given on FMD virus subtypes presently in South American countries. Also, global tables were given on the occurrence of vesicular diseases and virus diagnoses in various countries during 1974, and for some periods of 1975.

In the first 2 weeks of 1976, a summary was given of FMD virus subtypes isolated during 1975 in the affected area countries. A note was also included on the epidemiological, serological and immunological situation of 8 strains which deviated from the known characteristics of the current viruses. Table 4 reproduces this information.

Tables 5, 6 and 7 summarize, respectively, the monthly distribution of affected herds by vesicular diseases, the number of vesicular samples by type of virus diagnosed, and the number of samples from the countries of Central America and Panama which were typed at the Center.

### Epidemiological Border Surveillance

The system of epidemiological border surveillance continued operations between the state of Parana, Brazil and the departments of Alto Parana and Kanendiyu, in Paraguay. At the end of the year, studies were undertaken to include in this system the border area between the state of Mato Grosso, Brazil, and the Paraguayan departments of Amambay and Concepcion.

The surveillance system also continued operations between Brazil, Guyana and Venezuela in the region of Roraima, Rupununi and Gran Sabana. However, in August, the Center received no more weekly telegrams, which had been coming in regularly up to that time. Brazil, in the Roraima Territory, fulfilled its planned vaccination goals.

At the end of 1975, Brazil and Uruguay began technical meetings to study a border program of epidemiological surveillance for the major animal diseases, with priority to be given to FMD.

Ecuador and Colombia maintained expected activities in the agreement signed in 1964, with PAHO, for controlling FMD in their common border region. At the same time, studies and negotiations continued for extending the agreement to other diseases considered to be of common importance.

Ecuador and Peru made the first contacts to attempt coordination of FMD control activities. They decided on immediate application measures and developed a pre-proposal for an agreement between the two countries.

The vital defense of the border region between Panama and Colombia is based on agreements which each of these countries signed with the United States of America in 1972 and 1973, respectively. Both programs fulfilled their objectives, and no FMD outbreak was registered throughout the area during the year.

### Epidemiological Surveillance of Vesicular Diseases in Mexico, Central America and Panama

A seminar was held in Panama (March 31-April 11, 1975), on the epidemiological surveillance of vesicular diseases. Among the recommendations, those especially deserving mention are the countries' adoption of the epidemiological surveillance system developed during this seminar and the installation of a

regional laboratory for diagnosing vesicular diseases.

In terms of the first, there are as yet no results to be reported. For the second, it should be noted that at the end of 1975 the United Nations Development Program approved financing so that the PAHO, in cooperation with the countries, could carry out a project providing for a regional laboratory for the diagnosis of vesicular diseases in Central America and Panama. Thus, the original efforts of the Regional International Animal Health Organization (OIRSA) and Resolution XVII of RICAZ-8 were put into effect. The beginning of these activities is expected for the middle of 1976, and their immediate objectives are:

- Rapid diagnosis of causal agents of animal vesicular disease outbreaks in the countries of Central America and Panama.
- Organization of a regional system of epidemiological surveillance for animal vesicular diseases in the countries of Central America and Panama.
- Training in epidemiology, prevention, control and eradication of FMD and other exotic diseases for the countries of Central America and Panama.
- FMD epidemiological surveillance of domestic and wild animal populations in the Panama province of Darien.
- Definition and beginning of a program to study basic factors in the epidemiology of vesicular stomatitis.

## CONCLUSION

The goals set in the last report, for 1975, were not reached. The Center's actions were quite restricted, due to a lack of financial, material and human resources.

Considering the maximum priority of the development of a continental system of epidemiological surveillance of animal vesicular diseases in the Americas, the Center reaffirms the need to achieve these goals. At the same time, aware of the indefinite continuation of the above-mentioned limitations, the Center will attempt to reinforce its effort with resources from outside the institution.

To this end, it prepared a 4-year project for epidemiological surveillance of FMD and other communicable animal diseases. Its main objectives refer to the collection of integral data on livestock, notification of diseases, proposing research and training human resources. The project was sent to the United Nations Development Program for consideration, in an attempt to secure the necessary financial aid. Several countries consulted have expressed their support.

In the meantime, in 1976, the regular training and technical assistance activities of the Center will be given all possible attention. Under an agreement with the Government of Brazil, a 5-month course on information systems will be given, with space in the course for students from other countries. The Center's specialists will visit those national programs which require a greater on-site advisory service.

TABLE 1

EPIDEMIOLOGICAL SAMPLES SENT FROM  
SOUTH AMERICA AND MEXICO TO THE PAFMDC. 1975 (1)

Country/ Fortnight	Jan.		Feb.		Mar.		Apr.		May		Jun.		Jul.		Aug.		Sept.		Oct.		Nov.		Dec.		
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
Argentina	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Bolivia (2)	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	
Brazil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Colombia	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Chile	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ecuador	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mexico	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Paraguay	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Peru (3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Uruguay (3)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Venezuela (3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) Information received as of 31 January 1976.

(2) Monthly information.

(3) Weekly information.

TABLE 2

AVERAGE NUMBER OF DAYS ELAPSED BETWEEN THE RECEIPT OF  
EPIDEMIOLOGICAL REPORTS FROM THE COUNTRIES AT THE PAFMDC  
AND THE REPORTED PERIOD. SOUTH AMERICA. 1975

C o u n t r y	Interval in days					$\bar{X}$	$\bar{X} \ 74$
	0-15	16-20	31-45	46-60	>60		
Argentina	-	-	-	-	3	76	65
Bolivia	3	2	2	2	-	28	69
Brazil	-	6	18	1	-	36	51
Colombia	6	11	3	-	-	19	39
Chile	23	-	-	-	-	3	24
Ecuador	15	3	1	-	-	11	23
Mexico	7	9	2	-	-	19	-
Paraguay	23	-	-	-	-	6	27
Peru	6	8	2	1	-	22	29
Uruguay	18	10	-	-	-	14	31
Venezuela	15	4	1	-	-	13	61



TABLE 3

CHARACTERISTICS OF THE INFORMATION FORWARDED BY THE COUNTRIES  
TO THE PAFMDC. SOUTH AMERICA AND MEXICO. 1975

Country	Weekly	Coordinate Maps	No. of Affect- ed Herds	Virus Type	Inf. by Cable
Argentina	-	-	-	X	-
Bolivia <sup>1)</sup>	-	-	-	X	-
Brazil	-	X	X	X	-
Colombia	-	-	X	X	X
Chile	-	-	X	X	X
Ecuador	-	-	-	X	X
Mexico	-	-	X	X	-
Paraguay	-	X	X	X	X
Peru	-	-	-	X	X
Uruguay <sup>2)</sup>	X	X	X	X	X
Venezuela <sup>3)</sup>	X	X	X	X	X

1) Only the department of Santa Cruz.

2) As of 22 August 1975.

3) After April 1975, with progressive geographical coverage.

Note: Brazil and Paraguay use a week national-level information system by radio or telegram.

TABLE 4

SUBTYPES OF FOOT-AND-MOUTH DISEASE VIRUS IDENTIFIED BY COUNTRY  
SOUTH AMERICA. 1975

Argentina	0 <sub>1</sub> , A <sub>24</sub> , C Santa Fe 74 <sup>1)</sup>
Bolivia	0 <sub>1</sub> , A <sub>24</sub> , C Bolivia 74 <sup>2)</sup>
Brazil	0 <sub>1</sub> , A <sub>24</sub> , A Alegrete 75 <sup>3)</sup> , A São Paulo 75 <sup>4)</sup> , C <sub>3</sub>
Colombia	0 <sub>1</sub> , A <sub>27</sub> , A Sabana 74 <sup>5)</sup>
Chile	-
Ecuador	0 <sub>1</sub> , A <sub>24</sub> , A <sub>27</sub> , A Ecuador 75 <sup>6)</sup>
Paraguay	0 <sub>1</sub> , A <sub>24</sub> , C <sub>3</sub> , C Chaco 74 <sup>7)</sup>
Peru	A <sub>27</sub> , A San Martín 75 <sup>8)</sup>
Uruguay	0 <sub>1</sub> , A <sub>24</sub> , C <sub>3</sub>
Venezuela	...

- The absence of FMD during the period was reported.

... Information not available.

- 1) C Santa Fe 74 - Isolated from outbreaks in the Province of Santa Fe, Argentina, in mid-1974. Studies at PAFMDC have shown serological differences from other known subtypes. It has not reappeared since the original isolation.
- 2) C Bolivia 74 - Isolated from outbreaks in the Dept. of Santa Cruz de la Sierra during 1974 and shown by PAFMDC to be serologically different from other known subtypes. There is no information on its epidemiological importance.
- 3) A Alegrete 75 - Strain serologically different from known subtypes. Recovered in the municipality of Alegrete, RS, Brazil, at the beginning of 1975. Its epidemiological importance is being evaluated.
- 4) A São Paulo 75 - Isolated in the State of São Paulo, Brazil, in early 1975. PAFMDC has confirmed its serological difference from known subtypes. Since its original isolation it has not reappeared.
- 5) A Sabana 74 - Isolated from a number of foci in the Sabana de Bogotá, Colombia, in late 1974. Studies at PAFMDC have shown that while it is serologically different from other known subtypes it is immunologically related to subtype A<sub>24</sub>. It has no epidemiological importance.

cont.

Cont.

- 6) Ecuador 75 - Isolated in Ecuador at the beginning of 1975. PAFMDC has shown that it is both serologically and immunologically different from other known subtypes. While it was widespread in the northern provinces of the country, it has not reappeared during the latter months of 1975.
- 7) C Chaco 74 - Isolated in the western region of Paraguay, Chaco, where it was widespread in 1974. PAFMDC has shown that it has a relationship with subtype C<sub>1</sub>.
- 8) A San Martín 75 - This strain was isolated during the epidemic between December, 1974, and June, 1975, in the Dept. of San Martín, Peru. Since then it has not been identified in that country. PAFMDC has demonstrated that it is serologically different from other known strains but it has an immunological different from other known strains but that it has an immunological similarity to subtype A<sub>24</sub>.

TABLE 5

MONTHLY DISTRIBUTION OF AFFECTED HERDS BY VESICULAR DISEASES BY COUNTRY.  
SOUTH AMERICA. 1975

C o u n t r y	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Total
														1974
Argentina	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bolivia <sup>3)</sup>	...	...	...	...	...	...	...	...	3	3	...	...	6	90
Brazil	186	345	523 <sup>1)</sup>	333	574	633	411	489 <sup>1)</sup>	235	329	228	210	4,496	3,845
Colombia	83	59 <sup>2)</sup>	53	46	6 <sup>2)</sup>	50	37	54	26 <sup>2)</sup>	24 <sup>2)</sup>	21 <sup>2)</sup>	...	459*	503
Chile	-	-	-	-	-	-	-	-	-	-	-	-	-	18
Ecuador	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paraguay	3	4	-	4	2	10	10	17 <sup>1)</sup>	6	5	13	13	87	59
Peru	...	...	...	...	...	...	...	...	...	...	...	...	...	27
Uruguay	7	8	4	16	14	13	56	33*	...	...	...	...	...	80*
Venezuela	...	...	...	3	5	5	18	12	52	50	17	...	162*	49*
<b>T o t a l</b>	<b>279</b>	<b>416</b>	<b>580</b>	<b>402</b>	<b>601</b>	<b>711</b>	<b>532</b>	<b>605</b>	<b>322</b>	<b>411</b>	<b>279</b>	<b>223</b>	<b>5,210</b>	<b>9,281</b>

1) Includes three fortnights.

2) Only one fortnight.

3) Information only for the department of Santa Cruz.

\* Partial.

- No vesicular disease.

... No information available.

TABLE 6

NUMBER OF SAMPLES BY TYPES OF FOOT-AND-MOUTH DISEASE VIRUS BY COUNTRY.  
SOUTH AMERICA. 1975

COUNTRY	DIAGNOSIS					Total 1974
	0	A	C	NJ.	NEG.	
Argentina <sup>5)</sup>	220	210	347	-	353	1.130
Bolivia <sup>5)</sup>	5	1	1	-	1	8
Brazil	664	590	134	-	817	2.205 <sup>1)</sup>
Colombia <sup>2)</sup>	24	241	-	25	100	417
Chile	-	-	-	-	-	-
Ecuador <sup>3)</sup>	27	197	-	-	-	224
Paraguay	29	3	6	-	8	46 <sup>4)</sup>
Peru <sup>2)</sup>	-	35	-	21	24	82
Uruguay <sup>5)</sup>	14	2	1	-	6	23
Venezuela <sup>5)</sup>	16	11	-	8	21	56
<b>T o t a l</b>	<b>999</b>	<b>1.290</b>	<b>489</b>	<b>54</b>	<b>1.330</b>	<b>4.191</b>
						<b>1.918</b>

1) There are also 105 samples pending.

2) 3 fortnights missing.

3) 2 fortnights missing.

4) There are also 2 samples pending.

5) Partial information.

\* Includes only FMD-positive samples.

TABLE 7

NUMBER OF VESICULAR STOMATITIS SAMPLES BY DIAGNOSIS AND COUNTRY. CENTRAL AMERICA, PANAMA AND MEXICO. 1975.

Country	Vesicular stomatitis		Neg.	Total
	New Jersey	Indiana <sub>1</sub>		
Belize	2	-	2	4
Costa Rica	12	-	8	20
Curaçao	-	-	1	1
El Salvador	24	-	3	32
Guatemala	8	2	8	18
Honduras	15	4	12	31
Jamaica	-	-	1	1
Nicaragua	79	5	69	153
Panama	10	2	19	31
T o t a l	150	13	128	291