*Rev. sci. tech. Off. int. Epiz.*, 2002, **21** (3), 429-436

# Review of the status of foot and mouth disease in countries of South America and approaches to control and eradication

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**Summary**

Since the signing in 1987 of the Hemispheric Plan for the Eradication of Foot-and-Mouth Disease (PHEFA) by the countries of South America, clinical cases of foot and mouth disease (FMD) have decreased significantly throughout the continent. During the early 1990s, national laboratories diagnosed an average of 766 cases per year in South America. By the late 1990s, this continent-wide average had fallen to 130.

By the end of the 1990s, the international community recognised Argentina, Chile, Guyana and Uruguay as free of FMD without vaccination. In 1999, clinical signs of FMD were absent in 60% of all cattle of the continent. These cattle represented 41% of all herds in South America and extended over 60% of the geographical area of the continent.

However, in the spring of 2001, FMD re-appeared in certain countries of the Southern Cone. This widespread re-occurrence of the disease in Argentina, Uruguay and the State of Rio Grande do Sul in Brazil called into question the basic premise of the PHEFA – that countries in South America can achieve and maintain FMD-free status, with or without vaccination.

The authors suggest that these countries can regain their FMD-free status by supporting the PHEFA. A successful disease eradication strategy relies on high levels of vaccination, effectiveness of outbreak responses, and control of animal movement. This strategy must have a regional, not national, focus and must be based on risk analysis methodology. The multilateral administration of vaccination campaigns and field activities to ensure wide and simultaneous vaccine application, along with primary prevention and joint border activities, is the key to eradicating FMD and maintaining areas free of the disease.

**Keywords**

Control – Eradication – Foot and mouth disease – Hemispheric Plan – Prevention – South America.

## Introduction

In 1987, the countries of South America signed a Hemispheric Plan for the Eradication of Foot-and-Mouth Disease (PHEFA) (7). These countries made remarkable strides in the control and eradication of foot and mouth disease (FMD) throughout the continent by following the plan throughout the 1990s. However, early in 2001, the region suffered a serious setback when Argentina and Uruguay (recognised as free from FMD without vaccination) and the State of Rio Grande do Sul in Brazil (recognised as free from FMD with vaccination), suffered the re-introduction of disease, resulting in the loss of disease-free status. The social and economic effects of this widespread outbreak forced the leaders of the various national FMD eradication programmes to re-examine their strategies to ensure that countries in South America achieve and maintain FMD-free status, with or without vaccination.

The adoption of the PHEFA by countries in South America initiated changes which, over the subsequent ten years, strengthened veterinary systems and promoted private sector

co-operation in the joint administration of control and eradication activities. This produced an overall improvement in effectiveness of national animal health programme infrastructures and services in nearly all countries of the continent.

The various vaccination campaigns in the region used an average of 250 million doses of bi- and trivalent FMD vaccine per year. By 1995, the campaigns had attained 94% vaccination coverage of the entire cattle herd on the continent. This, along with other control activities, was instrumental in reducing the average number of reported FMD outbreaks per year for all of South America, from 955 in 1990 to 130 in 1999. Furthermore, FMD virus (FMDV) type C has not been reported on the continent since 1995, when it was last diagnosed in the States of Mato Grosso and Tocantins of Brazil (4, 8).

The strategy used for the foundation of the PHEFA is based on epidemiological consideration of the differing relationships that exist within various cattle-raising operations. For example, the authors have described that in FMD-endemic areas in South America, the disease is maintained in large part because of the traditional ranching practices that link range cattle operations and fattening operations (1). The PHEFA treats these links by focusing on immediate response to outbreaks, control of animal movements between affected and unaffected areas and mass vaccination of susceptible animals. Should FMD threaten a disease-free region, affected and exposed animals are slaughtered for disease control purposes.

# Current situation

As the activities of Veterinary Services in the region became more effective under the PHEFA, the clinical occurrence of FMD declined significantly. By 1999, clinical signs of FMD were absent in 60% of the cattle in South America. This figure represented 41% of all the herds of South America and covered some 60% of the geographical area of the continent.

In 2000, countries in South America collectively reported 279 FMD outbreaks (Table I). This number is probably an underestimate of FMD prevalence because of the following:

– failure to report or investigate all suspected cases

– only 64% of cases investigated submitted samples for diagnostic testing.

Furthermore, some 996 outbreaks of vesicular stomatitis were reported throughout South America in 2000 (3). More frequent reports are made on vesicular stomatitis than on any of the other vesicular diseases with which FMD can be confused. Failure to perform adequate field investigations and the low number of laboratory submissions create a lack of confidence in the reported numbers of FMD outbreaks versus stomatitis outbreaks and raise the question as to whether the figures truly reflect the actual prevalence of FMD compared to that of vesicular stomatitis.

**Table I**
**Foot and mouth disease outbreaks in South America by virus type, country and year, 1990-2000**

| Country | Virus type | Year 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Endemic countries** | | | | | | | | | | | | | |
| Bolivia | O | 13 | 2 | 18 | 10 | 24 | 17 | 7 | 4 | 1 | 2 | 7 | 7 |
| | A | 4 | 2 | 0 | 5 | 3 | 19 | 1 | 4 | 6 | 18 | 18 | 81 |
| | C | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Brazil | O | 43 | 38 | 158 | 115 | 304 | 83 | 9 | 19 | 5 | 13 | 12 | 0 |
| | A | 43 | 18 | 72 | 182 | 150 | 99 | 18 | 5 | 1 | 2 | 6 | 15 |
| | C | 91 | 64 | 6 | 1 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colombia | O | 83 | 74 | 226 | 137 | 361 | 144 | 25 | 19 | 92 | 49 | 37 | 5 |
| | A | 250 | 113 | 82 | 33 | 40 | 79 | 81 | 17 | 11 | 8 | 1 | 0 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecuador | O | 29 | 19 | 30 | 26 | 23 | 32 | 17 | 30 | 67 | 17 | 11 | 15 |
| | A | 5 | 5 | 0 | 0 | 0 | 0 | 5 | 34 | 14 | 2 | 8 | 8 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peru | O | 32 | 2 | 12 | 44 | 24 | 3 | 10 | 4 | 0 | 0 | 0 | 0 |
| | A | 0 | 0 | 3 | 1 | 0 | 0 | 15 | 0 | 0 | 15 | 48 | 0 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Venezuela | O | 3 | 6 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| | A | 16 | 16 | 7 | 3 | 5 | 3 | 1 | 1 | 17 | 4 | 4 | 4 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Free countries** | | | | | | | | | | | | | |
| Argentina | O | 196 | 37 | 108 | 78 | 15 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| | A | 115 | 60 | 72 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 113 | 2,126 |
| | C | 5 | 2 | 39 | 50 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Chile | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guyana | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | 0 |
| | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | 0 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | 0 |
| Paraguay | O | 2 | 27 | 23 | 12 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Uruguay | O | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| | A | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,057 |
| | C | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*Source*: Country reports to PANAFTOSA/PAHO-WHO
...: Data not available

As shown in Figure 1, the number of FMD outbreaks in South America in 2001 reached 4,318. This dramatic rise was due to the re-introduction of FMD into Argentina, Uruguay and Brazil (Rio Grande do Sul). This re-introduction of the disease can be attributed to two factors, as follows:

– a general slackening in the development and application of preventive measures by the national programmes

– an obvious decrease, by both the private and public sectors, in investment in animal health infrastructure and surveillance activities following international recognition of FMD-free zones or countries.

In summary, a brief report is provided on the FMD status by country in South America in recent years.

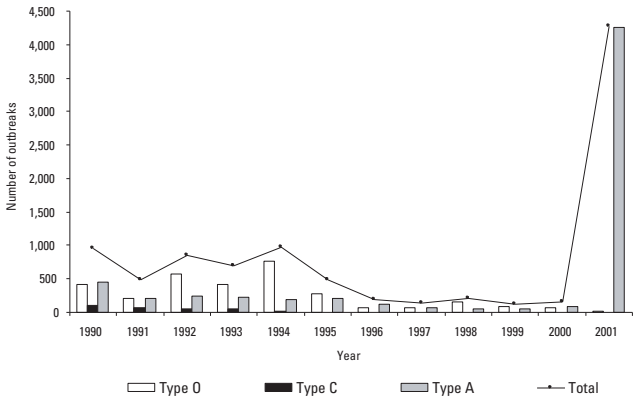


**Fig. 1**
**Number of foot and mouth disease outbreaks, by virus type, in South America, 1990-2001**
*Source*: Country reports submitted to the Pan-American Center for Foot-and-Mouth Disease

## Peru

In Peru, the surveillance system appears to be more reliable, as shown by the rising number of suspected and confirmed outbreaks of FMD. Foot and mouth disease is reported most frequently from the area around Lima, which is a centre of fattening operations, as well as around the cities of Junin, Huancavelica, Ica and Ayacucho. The outbreaks stem from the illegal movement of cattle across the northern border of Peru with Ecuador. Peru reported 15 FMD outbreaks in 1999 and 48 in 2000, and 90 suspected outbreaks were investigated and considered as not having been caused by FMD in 2001.

## Colombia

From 1998 to 2000, Colombia reported a yearly average of 961 cases of suspected vesicular disease. The ratio of vesicular stomatitis versus FMD cases confirmed in the laboratory was 7.8:1 for 2000. In 2001, the total number of suspected cases of vesicular disease reached 1,238, but only five were confirmed as FMD, and all were caused by virus type O. These figures show the importance of distinguishing FMD from vesicular stomatitis. They are testimony to the success of the efforts of Colombia to advance FMD eradication through an exemplary co-operative government/private sector programme.

This joint effort between the Government and the private sector to manage the FMD eradication programme in Colombia has resulted in international recognition of an FMD-free zone, with vaccination, along the Atlantic coast of the country. About half of the cattle of Colombia are located within this zone. One outbreak of FMD was reported close to this area, in the municipality of Necoclí in 2001. The outbreak was successfully eradicated and the authorities determined the probable cause to be the introduction of carrier animals from the endemic zone. Results of a serological survey showed no further viral activity within the outbreak area.

## Ecuador

Ecuador also relies on the private sector for strong support of the national FMD eradication programme. However, in 2000, national vaccination coverage of the country only reached 50%, although greater coverage was reported in endemic areas. The national Veterinary Services reported 81 outbreaks in 1998, 19 in 1999 and 19 in 2000. In 2001, Ecuador reported 77 FMD outbreaks, 15 of which were diagnosed as caused by virus type O and 7 by type A (Table I).

## Venezuela

Venezuela has enlisted the support of the private sector in a massive FMD vaccination campaign. Over the last five years, this campaign has successfully raised vaccination coverage from 63% to 87% of the national herd. The country reported seventeen FMD outbreaks in 1998, four in 1999 and four in 2000 (Table I). However, these figures may be unreliable because of the low sampling percentage and the small number of laboratory confirmations. In 2001, the Veterinary Services of Venezuela reported 160 FMD outbreaks, but confirmed only five. These were reported as type A; no type O infections were diagnosed during that year.

## Bolivia

Bolivia has launched a reinforced programme for the control and eradication of FMD. International assistance has contributed to the surveillance activities of the animal health authorities and private sector becoming more effective. Bolivia reported 20 outbreaks of FMD in 1999 and 15 outbreaks in 2000. The infrastructure improvements under the revitalised programme detected 144 outbreaks in 2001. However, as with some of the other countries of South America, difficulties in the reporting of suspected cases and low submission rates of laboratory samples limit confidence that these figures accurately express the real prevalence of the disease.

## Guyana

As a result of participation in the PHEFA and control measures conducted in 2002, Guyana obtained FMD-free without vaccination status from the Office International des Epizooties (OIE: World organisation for animal health) in May 2001 (4, 6).

## Paraguay

Paraguay has not reported an outbreak of FMD since September 1994. However, in September 2000, the national diagnostic laboratory reported serological evidence, based on the testing for non-structural proteins (NSPs), of virus circulation in a small herd of cattle. Three positive sera out of 27 samples were recorded in a group of cattle in Corpus Christi, a town in the department of Canindeyú, close to the border with Brazil. Veterinary authorities collected and analysed probang samples, with negative results. The 27 animals were slaughtered and a further 800 suspected

contact animals were tested. Testing for NSPs was negative. The situation was sufficiently uncertain for the country to postpone application to the OIE for FMD-free status without vaccination while a three-year, nationwide vaccination programme was instituted.

## Argentina, Brazil and Uruguay

Argentina, Brazil and Uruguay deserve special mention because of the events which occurred during 2000 and 2001.

The re-introduction of FMD into part of the Southern Cone (Argentina, Brazil, Paraguay and Uruguay) of South America had enormous repercussions for governments, livestock production and marketing sectors, and the public as a whole. Although the affected countries had witnessed similar outbreaks before (1), the extent and spread of the outbreak in such a large area previously considered free of FMD led to the re-appraisal and re-alignment of control and eradication activities and strategies throughout South America. As a result, the levels of support for FMD control, surveillance and eradication activities in these re-infected countries has returned to, or exceeded, pre-outbreak levels.

In 2000, Argentina, which had only recently gained recognition as being free from FMD without vaccination, reported the isolation of virus type A in animals in a province on the northern border with Paraguay. Investigations linked outbreaks in two other provinces to this initial report. By the time slaughter and burial were completed and the outbreaks were considered eradicated, the Veterinary Services had detected 124 infected premises, 11 revealing type O and 113 type A virus.

Uruguay attained FMD-free status without vaccination in 1996. In August 2000, the country experienced three outbreaks of FMDV type O in Artigas, a city on the border with Brazil. Given the status of the country as FMD-free without vaccination, officials decided against vaccination.

A stamping-out (slaughter and disposal) campaign was immediately initiated. The outbreak was eradicated after incurring the loss of over 20,000 animals due to slaughter (bovine, sheep, pigs) and at a cost of U$3.5 million.

The national programme of Brazil recognises the epidemiological importance of different cattle production systems and has divided the country into regional livestock circuits, the classifications of which depend upon the predominant types of cattle ranching operations, e.g., cow-calf, feeders, or finishing operations. Each region, or circuit, has an eradication strategy tailored to individual operational characteristics. This approach to FMD eradication has reduced the number of outbreaks by 93% over the last ten years (Table I). By early 2000, an extensive zone covering the southern, central-western, and eastern circuits, comprising about 126 million cattle, was declared FMD-free with vaccination. Foot and mouth disease was confined to the north-eastern and northern circuits.

Later in 2000, however, FMD entered the State of Rio Grande do Sul and an outbreak was reported in the Joia region. The disease spread and resulted in 22 outbreaks (12 of which were diagnosed in the laboratory as virus type O) in this area, previously considered free from FMD.

By the end of 2000, veterinary officials in Argentina, Brazil and Uruguay believed that outbreak control methods and the use of the stamping-out policy had effectively eliminated the resurgence of FMD. However, in February 2001, the first cases of what was to become a massive outbreak involving all three countries were reported and investigated by the Authorities of Argentina. Virus isolation revealed FMDV type A, subtype A2001 (3). The outbreak was explosive and spread rapidly throughout the central and eastern provinces in Argentina. A special control zone on the northern limit of the Patagonia area in Argentina prevented the disease from spreading to the south of the country. In spite of concerted efforts of the Veterinary Services and producers, the disease was still out of control at the end of 2001, with 2,126 officially reported outbreaks.

The efforts of Uruguay in preventing the entry of FMD from neighbouring Argentina were unsuccessful and, in April 2001 officials of Uruguay reported the first outbreak in the town of Soriano. The disease spread so rapidly that containment and stamping-out were not possible, and authorities therefore initiated a national vaccination programme with the goal of vaccinating the national herd twice before the end of the year. This, combined with extremely strict control of animal movement, limited the spread of infection by the end of August 2001 when the last outbreak was reported. By then, FMDV type A, had affected some 2,057 premises.

Brazil reported the first of what would amount to a total of 37 outbreaks for the year in May 2001, again in Rio Grande do Sul. All contact animals were slaughtered immediately, 1,191 in total. To ensure the disease would not spread into the adjacent FMD-free States of Santa Catarina and Paraná, authorities began a vaccination campaign for the entire State herd. This outbreak of FMDV type A was successfully limited to Rio Grande do Sul. At present, in 2002, Brazil continues surveillance activities in this State using sentinel animals and serological surveys. To date, all samples tested for NSPs have yielded negative results.

Over the last three years, numerous serological studies have been conducted by various countries to achieve the following:

*a*) evaluate the level of risk of trade between areas with different FMD status

*b*) search for viral activity as part of projects for achieving recognition of freedom from FMD. These studies involve the use of the viral infection-associated antigen (VIAA) test, the 3ABC enzyme-linked immunosorbent assay (ELISA) test and

the enzyme-linked immuno-electrotransfer blot (EITB) test. The Centro Panamericano de Fiebre Aftosa (PANAFTOSA: Pan-American Center for Foot-and-Mouth Disease) supported these studies by providing reagents and training and by designing the sampling protocols. Almost every country in South America participated in the testing programme, but most tests were performed for Argentina, Brazil, Paraguay and Uruguay as part of particular efforts to gain FMD-free status. More than 173,000 serum samples were tested using the VIAA, 420,000 with the 3ABC ELISA test and 202,000 with EITB. The EITB, which is considered to be the definitive test, was negative for all samples run to date.

There is much that is not understood about the dynamics of FMD within and among animal populations and in individual animals.

– Why did both FMDV types A and O suddenly re-appear in the Southern Cone?

– Was the virus circulating but undetected, or undetectable with present tools?

– Was the virus lying dormant somewhere?

– Did the virus re-enter with unapparent carriers?

– Did the virus simply re-appear because of trade in infected or exposed animals (2)?

Until more is known about the disease and more reliable and effective diagnostic tests are available, the countries of South America must accept the reality that any success in maintaining an area free of FMD depends greatly on surveillance and prevention. Achieving FMD-free status magnifies rather than diminishes the importance of having effective laboratories and Veterinary Services in the field. The experience of the past two years in Argentina, Brazil and Uruguay clearly demonstrates that the battle to eradicate FMD in South America will continue until all the countries are free of the disease.

# Control of foot and mouth disease and how to achieve eradication and maintain freedom from the disease in South America

The re-introduction of FMD into the Southern Cone countries of South America may be argued to be largely a result of the failure of the authorities to recognise that continuing high levels of prevention and surveillance are the cornerstones of the effort to maintain FMD-free status. Political and economic pressures to achieve disease-free status very rapidly are constant and intense. However, political and financial instability, coupled with the lack of opportunity for these countries to develop institutional experiences in the management of the programmes, make it difficult for decision-makers to maintain focus on longer-term needs when apparent success has been achieved with one of many important projects. Data from FMD programmes in South America show that once the disease has been declared eradicated in a country, the government immediately shifts resources and support to other high-priority needs. The veterinary infrastructure collapses, co-operative efforts with the private sector are discontinued and little interest is shown in maintaining FMD awareness in the minds of producers, tradespeople and the public (Figs 2 and 3). Free areas or countries which border infected areas or countries are at greater risk than before achieving disease-free status, especially if freedom is achieved without vaccination. Economic realities and lack of infrastructure constrain the effectiveness of the control of animal movements, whether within a region, between areas of different status or across national borders. It is extremely unlikely that any country in South America which achieves disease-free status will be able to

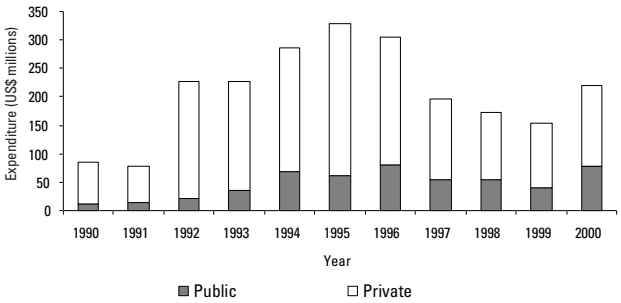


**Fig. 2**
**Public and private expenditure on national foot and mouth disease eradication programmes in endemic areas of South America, 1990-2000**

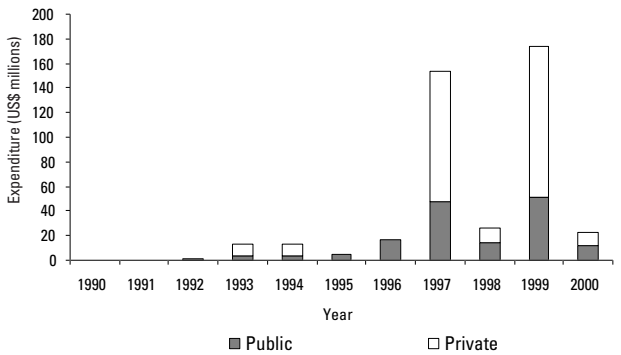


**Fig. 3**
**Public and private expenditure on national foot and mouth disease eradication programmes in disease-free areas of South America, 1990-2000**

remain 'isolated' and thereby protect the national herd from the effects of an FMD-infected neighbour or trading partner. This reality demonstrates that the countries of South America must avoid focusing only on national programmes and must instead develop and implement regional eradication strategies.

Foot and mouth disease in South America is not the challenge of any one country. The disease crosses international boundaries, and as such, all the components of a successful eradication programme – risk analysis, epidemiology, vaccination strategies, outbreak control activities, animal movement control, surveillance systems, public information campaigns – must be regionally oriented (5).

The eradication of FMD is indeed attainable in the countries of South America. Maintaining disease-free status without vaccination in some countries while other neighbouring countries remain infected presents special challenges to the governments and veterinary authorities of the region. Adjusting to these challenges requires the reorientation of certain national priorities in favour of regional strategies. This requires increased co-operation and a higher level of trust between the private and public sectors. Governments must also promote the maintenance of animal health infrastructures and organisational stability. In pursuit of regional solutions to animal health issues and problems, the government and livestock industry within each country must build alliances with one other while seeking similar alliances with these same institutions in neighbouring countries. The larger, more robust and more experienced economies or nations in the region must accept the obligation to assist less robust neighbours in finding solutions which fit the cultural idiosyncrasies of all concerned. The small producer, often poor and marginalised in these cultures, plays an important role in any successful eradication effort. These producers must be convinced that they need to participate in the programmes, perhaps by integrating FMD control activities with general animal health programmes that will be of more direct benefit to them. Finally, programme leaders must search for new, untapped funding sources that are impervious to shifts in political trends. These are all key elements for programme continuity and to the eventual achievement of sustainable eradication of FMD in South America.

■

# Statut de la fièvre aphteuse et inventaire des mesures de prophylaxie et d'éradication en Amérique du Sud

E. Correa Melo, V. Saraiva & V. Astudillo

**Résumé**

Depuis la signature du Plan hémisphérique d'éradication de la fièvre aphteuse (PHEFA) par les pays d'Amérique du Sud, le nombre de cas cliniques de cette maladie est en forte régression sur l'ensemble du continent. Alors qu'au début des années 1990, les laboratoires nationaux sud-américains diagnostiquaient en moyenne 766 cas chaque année, ce nombre était tombé à 130 cas vers la fin de la décennie.

À la fin des années 1990, l'Argentine, le Chili, le Guyana et l'Uruguay étaient reconnus par la communauté internationale comme des pays exempts de fièvre aphteuse où n'est pas pratiquée la vaccination. En 1999, aucun signe clinique de la maladie n'a été observé sur 60 % des bovins du continent. Ces animaux constituaient 41 % de l'ensemble du cheptel sud-américain et vivaient dans une zone géographique représentant plus de 60 % de la superficie du continent.

La fièvre aphteuse a toutefois fait sa réapparition dans certains pays du Cône Sud durant le printemps 2001. Le retour de la maladie dans de très nombreuses zones d'Argentine, d'Uruguay et de l'État du Rio Grande do Sul, au Brésil, a remis en question les fondements du Plan hémisphérique, à savoir la capacité des pays sud-américains d'obtenir et de conserver le statut de pays indemne de fièvre aphteuse, avec ou sans vaccination.

Les auteurs laissent entendre que ces pays pourraient recouvrer leur statut en accordant leur appui au PHEFA. La réussite d'une stratégie d'éradication de la maladie passe par une vaccination généralisée, une réponse efficace à l'apparition des foyers et le contrôle des déplacements d'animaux. La mise en place d'une telle stratégie doit intervenir au niveau régional (et non au niveau

national) et reposer sur une méthodologie d'analyse des risques. La gestion multilatérale des campagnes de vaccination et des activités de terrain permettant d'assurer la couverture simultanée de vastes zones, les mesures préventives de base et les activités de contrôle aux frontières constituent la clé de l'éradication de la fièvre aphteuse et de la conservation du statut de zone indemne de maladie.

**Mots-clés**
Amérique du Sud – Éradication – Fièvre aphteuse – Plan hémisphérique – Prévention – Prophylaxie.

# Panorámica de la situación de la fiebre aftosa en los países de Sudamérica y métodos de control y erradicación

E. Correa Melo, V. Saraiva & V. Astudillo

**Resumen**
Desde que en 1987 los países sudamericanos suscribieron el Plan Hemisférico de Erradicación de la Fiebre Aftosa (PHEFA), el número de casos clínicos ha decrecido sensiblemente en todo el continente. A principios de los noventa, los laboratorios nacionales estaban diagnosticando un promedio de 766 casos de fiebre aftosa anuales. A finales del decenio, la media continental había bajado a 130.
A finales de los años noventa, la comunidad internacional concedió a Argentina, Chile, Guayana y Uruguay el estatuto de países libres de fiebre aftosa sin vacunación. En 1999, un 60% de las cabezas de ganado vacuno del continente no presentaba signos clínicos de la enfermedad. Esos ejemplares, presentes en más del 60% de la superficie del continente, correspondían a un 41% de los rebaños de toda Sudamérica.
Sin embargo, en primavera de 2001 la fiebre aftosa reapareció en algunos países del Cono Sur. Ese rebrote generalizado en Argentina, Uruguay y el estado brasileño de Rio Grande do Sul vino a poner en tela de juicio la premisa fundamental del PHEFA, a saber: que los países de Sudamérica son capaces de obtener y perpetuar la condición de países libres de fiebre aftosa, ya sea con o sin vacunación.
Los autores afirman que, prestando apoyo al PHEFA, esos países pueden recobrar su perdida condición de "libres de fiebre aftosa". Para ser fructífera, una estrategia de erradicación debe prever niveles elevados de vacunación, una respuesta eficaz ante cualquier brote y el control de los movimientos de animales. Además debe instaurarse a escala regional en lugar de nacional, y reposar en métodos de análisis de riesgos. La realización de campañas multilaterales de vacunaciones y de actividades sobre el terreno para garantizar que esas campañas se aplican por doquier y de forma simultánea, junto con las labores de prevención primaria y las actividades conjuntas en zonas fronterizas, son la clave para erradicar la fiebre aftosa y mantener zonas libres de esa enfermedad.

**Palabras clave**
Control – Erradicación – Fiebre aftosa – Plan hemisférico – Prevención – Sudamérica.

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