



PAN AMERICAN HEALTH ORGANIZATION

**IX INTER-AMERICAN MEETING, AT THE MINISTERIAL LEVEL,
ON ANIMAL HEALTH**

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SITUATION OF BOVINE TUBERCULOSIS IN THE AMERICAS



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Pan American Sanitary Bureau Regional Office of the
WORLD HEALTH ORGANIZATION

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IN THE AMERICAS**

Disease Prevention and Control
VETERINARY PUBLIC HEALTH PROGRAM

SITUATION OF BOVINE TUBERCULOSIS IN THE AMERICAS

1. Political and Technical Basis for the Regional Control and Eradication Program for Bovine Tuberculosis

During the VII Inter American Ministerial Meeting on Animal Health (RIMSA) held in Washington, D.C., in April 1991, the Ministers of Agriculture in the Americas gave consideration to the historical background of tuberculosis. They further discussed the importance and current scope of bovine tuberculosis, as well as the experience obtained in their respective countries in the fight against this zoonosis. The available technological knowledge acquired in the region to control this disease was discussed, and they unanimously approved the XI Resolution, whereby the Director of the Pan American Health Organization (PAHO) was requested to prepare a Plan of Action for the Control and Eradication of Bovine Tuberculosis in the Americas, in consultation with the Member Countries.

The participants recommended that a meeting be organized shortly thereafter for international specialists and representatives from those organizations which were responsible for the accomplishment of programs to control bovine tuberculosis. At the latter meeting the situation of bovine tuberculosis was to be analyzed and a proposal prepared with guidelines that might be adapted to meet the differences in the distinct regions, the frequency and distribution, of the disease, as well as the factors that affect the pattern of the illness.

In view of the above situation, the Director of the Pan American Health Organization/World Health Organization (PAHO/WHO) summoned an International Meeting to deal with Control and Eradication of Bovine Tuberculosis. This was held in the city of Saltillo, Coahuila, Mexico, between November 18th-20th, 1991. Representatives from twenty American countries, and several national and international bodies, and institutions for technical cooperation and research attended that Meeting.

Subsequent to this, several countries in South America, took appropriate actions. In 1994 Argentina developed a Program to Control and Eradicate Bovine

tuberculosis. It solicited the participation of private and state veterinarians. Additionally, schools of Veterinary Science also cooperated in the implementation of the plan that was established.

Chile extended the scope of the Control Program for Tuberculosis which at present involves a Certification System of Fields Free of Brucellosis and Bovine Tuberculosis. Regular and systematic voluntary monitoring is done in some 2,000 fields that are classified as free from disease. During 1995, the Agricultural and Farming Service (SAQ) had also developed a sampling procedure to determine the prevalence of the disease within herds of animals within the whole territory, as part of the National Control Program.

Uruguay, a country having a low incidence of bovine tuberculosis, and which had already developed a successful program to eliminate the foot-and-mouth disease, had prepared a priority project for the eradication of bovine brucellosis and tuberculosis.

In the Andean Region, in Colombia, where the disease had only recently been introduced and limited to specific areas, a program to eradicate the disease had been developed, although it has not as yet been completely consolidated.

For twenty years, Venezuela had worked on the tuberculin testing of bovine cattle (726,000 herds in 1993) and destruction of reactors. By 1993 there was a remarkable reduction in the rates of reacting animals to 0.02%.

As for the remaining areas of the South American Region, it is well known that several countries (at least four) exist, in which there are negotiations or preparation of bills to cover aspects related to animal health or agricultural sanitation. It is hoped that through these measures the main concerns about bovine tuberculosis would be considered by the international bodies with responsibility for technical and financial cooperation.

The following 10 countries are presently producing tuberculin, PPD, for diagnosis of bovine tuberculosis: Argentina, Brazil, Canada, Cuba, United States, Mexico, Paraguay, Dominican Republic, Uruguay and Venezuela.

The most commonly used methods for diagnosis are tuberculin testing and the detection of lesions in the slaughterhouse. In the United States and Canada, special emphasis is given to the isolation of Mycobacterium in tissues suspected of having tuberculosis. At present, additional methods such as Gamma Interferon tests, are being studied.

The Pan American Health Organization provides technical aid for the Regional Control Programs, through its Program of Animal Health; as well as the Pan American Institute for Food Protection and Zoonosis (INPPAZ), in cooperation with other technical entities, such as OIRSA, FAO and IICA.

This cooperation is based upon the activities aimed at training specialist in the diagnosis, organization of reporting and surveillance systems, the quality control of reagents, as well as direct support for the planning, organization and execution of National Control Programs. INNPAZ acts as a Reference Center for these.

Within that setting there was an overview of the epidemiological situation regarding illness; technological developments specifically related to the diagnosis of such illnesses were analyzed; updated information about the status of programs that were set up in each country of the Region was exchanged; and a draft Plan of Action for the Control and Eradication of Bovine Tuberculosis in the Americas was discussed. It was hoped that relevant national authorities would have accepted this plan as the framework for a program to control the disease within this hemisphere.

Among the basic strategies that were discussed in the proposal were the following topics: the inclusion of the programs in agricultural development policies of the countries, in view of the public health and economic significance; epidemiological surveillance; the division of regions based on risk levels; and active community participation, especially of breeders and any other sector related to cattle raising.

2. Epidemiological Situation in American Countries

The analysis of the epidemiological situation of bovine tuberculosis in the Americas has been prepared on the basis of the reports forwarded by the different countries to the Pan American Health Organization during 1990-1994, and the information available, was obtained from the 1990-1993 World Sanitary Annual

Reports (FAO-OIE-WHO). Most of the data comprised therein belong to routine diagnosis, non-designed sampling of tuberculin testing and cases detected during inspection at slaughterhouses. Although these factors affect the correct classification of the countries according to the prevalence of the illness, three categories were established:

The first category comprised the countries free of the disease, or with a prevalence of the disease being less than 0.1%, and which, in total, accounted for 37.7% (164,4 millions) of the bovine heads estimated in the American continent. The countries belonging to this group are: the Caribbean (excluding Haiti and the Dominican Republic), North America (United States and Canada), Belize, Colombia, Cuba, Panama, Uruguay and Venezuela.

The second category comprised countries with an incidence above 0.1%, in which the estimated bovine population was about 251,3 millions heads (57.6% of the total amount). Countries meeting this condition are: the Dominican Republic in the Caribbean; Costa Rica and Guatemala in Central America; Mexico, a country with completely different patterns regarding milk-or meat-producing areas; and, Argentina, Brazil, Chile and Paraguay in South America,

Lastly, Category C involved the countries where the actual situation of bovine tuberculosis prevalence is unknown, or official data are unavailable, scarce or outdated. This category comprises Bolivia, Ecuador, El Salvador, French Guiana, Guyana, Haiti, Honduras, Nicaragua, Peru and Suriname, which together have 20.5 million heads of bovine cattle, amounting to 4.7% of the total for the Region.

3. Present Status of the Programs: A Summary

In North America, the United States has continued with the program to eradicate bovine tuberculosis, with projections to achieve this goal by 1998. Within this country, 41 states have already attained the status of "free regions", and another 10 states are considered to have reached an "improved status".

Canada, whose eradication program started in 1987, suspended the routine tuberculin testing of bovine cattle and now has only the implementation of an epidemiological control system via the slaughterhouses. In 1993, of the almost 2.5

million bovine cattle killed, 158 showed lesions similar to the ones produced by bovine tuberculosis. In 1994, no heads infected with *M. bovis* were detected, and no *Mycobacterium* was isolated from granulomatous lesions in pigs that were regularly submitted to laboratories for diagnosis.

In 1993, Mexico reviewed the National Program with the purpose of strengthening its scope within the milk-producing areas. Although these areas comprise a significantly lower number of bovine heads (between one-fifth and one-sixth of the total bovine population), the incidence of bovine tuberculosis is remarkably higher than that observed in the areas where cattle is bred for meat production. The data collected for 1993 showed that 38,562 herds and 2,37 million bovine heads were examined, about 0.23% of this total reacted to the tuberculin test.

In Cuba, where the disease is considered to be completely eradicated, a retrospective study carried out after the detection of animals with compatible lesions in slaughterhouses, made the authorities deactivate an extensive area for breeding of water buffalos, by killing two bovine herds in 1993 and 97 heads in 1994. The detection within this last Region was made through the tuberculin test. It is worthwhile mentioning that in this country, the massive use of this diagnostic test has been significantly reduced, by enhancing control in the slaughterhouses.

As regards Jamaica, between 1992 and 1993, an important ratio of the bovine cattle received tuberculin tests, without detecting either tuberculin reactors or animals with lesions compatible with the disease during the meat inspection performed at slaughterhouses. Based on these facts, the national authority has expected to obtain an "improved condition" classification in the short term, prior to being certified as a "free country".

In Central America, during 1994, and as a part of the Regional Support Program for Animal Health (PARSA) of the OIRSA, a Pilot Control Project for brucellosis and tuberculosis was initiated in the eastern region of El Salvador, with the intention of extending its actions and results to other parts of the country and even to the other countries within the Central American subregion affected by the same diseases. This project is economically sponsored by the European Union, OIRSA, the agricultural producers and the Government of El Salvador, as well as the technical cooperation of OIRSA, PARSA and PAHO/WHO (PAHO-PARSA/OIRSA Agreement).

During 1992, Panama carried out an "Analysis of the Situation and Background Evaluation" which allowed the country to be declared free of bovine tuberculosis in 1993.

4. Conclusions

In general, within the American Continent, the frequency of bovine tuberculosis is low, due to the implementation of systematic control and eradication programs for the disease implemented by the governments of Canada, United States, Costa Rica, Cuba, Jamaica, Panama and Uruguay. In the tropical countries, extensive and semi-extensive production systems restrict the introduction and the distribution of the disease, and the sources that have been detected lie within the milk-producing areas, where intensive production systems are applied.

With the cooperation of the Pan American Health Organization and other technical assistance organizations, operating within the framework of the Regional Control and Eradication Program for Bovine Tuberculosis, as of 1991, the countries have been in a stage of revision and refocusing of their National Control Programs. This is on the basis of the significant experience gained by some of them regarding eradication methods.

During the first phase of 10 years, it was hoped that the goals to eradicate the disease within those countries with more developed programs would have been consolidated. In the remaining countries, the objective is to strengthen epidemiological surveillance in order to examine the actual situation of the disease, to define the areas at risk and to set up appropriate control and eradication programs.

5. References

- . **Anuarios de Salud Animal FAO-OMS-OIE, 1990, 1991, 1992, 1993.**
- . **Barajas Rojas, José A.**
Control de la tuberculosis bovina en México. Universidad Nacional Autónoma de México.
Facultad de Medicina Veterinaria. Documentos 1994.
- . **OIRSA.** Programa de apoyo regional en sanidad agropecuaria para proyectos (PARSA). Proyecto piloto de control y erradicación de la brucelosis y tuberculosis Bovina en la Zona Oriental de El Salvador.
Convenio Centro América CEE ALA 91/37,1993.
- . **OPS/OMS.** Situación de la tuberculosis bovina en América Latina y el Caribe. Publicación Especial No. 10 CEPANZO. Martínez, Argentina 1991.
- . **OPS/OMS.** Plan de acción para la erradicación de la tuberculosis bovina. Fase I. Washington, D.C. 1992.
- . **OPS/OMS.** Informes Oficiales enviados por los países sobre la situación de la tuberculosis bovina durante el período 1990-1993.
- . **OPS/OMS.** Situación de los programas de lucha contra la tuberculosis bovina en Centroamérica. Informe de Misión. 1994.
- . **Van Tiem, J. Essey, M.A.** Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal year 1993.
Proc. 97th Ann.Mtg. of the United States Animal Health Assn., Las Vegas, No, Pgs, 543-553, 1994.