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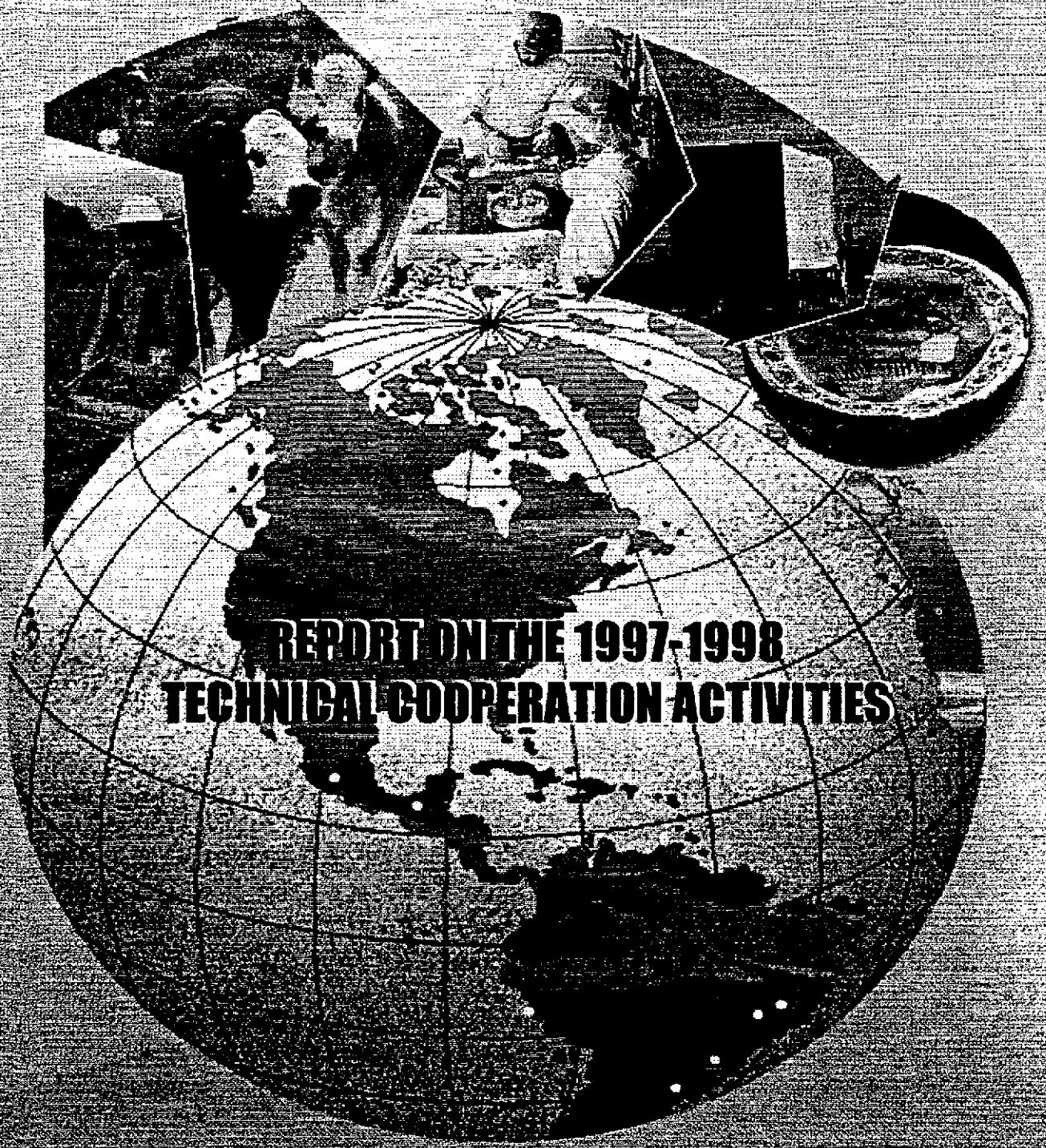
INPPAZ

REPORT ON THE 1997-1998 TECHNICAL COOPERATION ACTIVITIES

Pan American Health Organization,
Pan American Sanitary Bureau, Regional Office of the
World Health Organization

PAN AMERICAN INSTITUTE FOR FOOD PROTECTION AND ZOONOSES

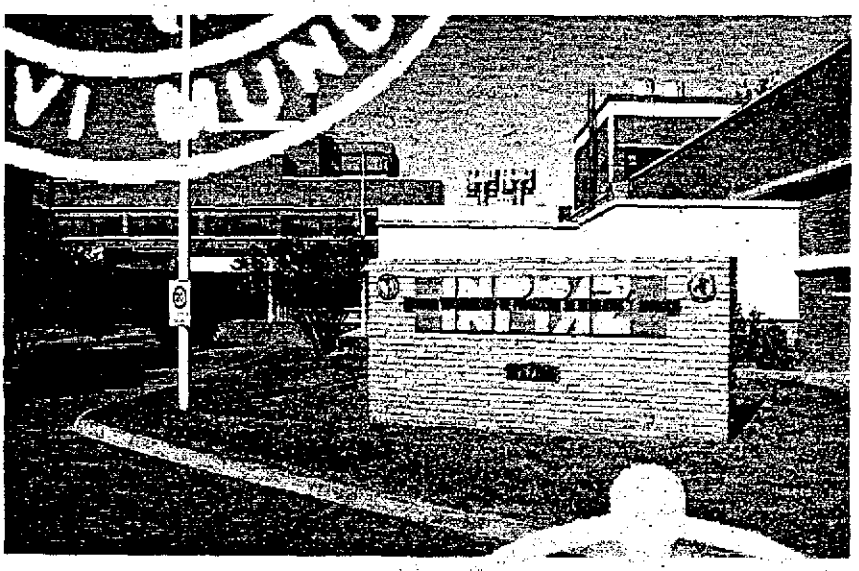


REPORT ON THE 1997-1998 TECHNICAL COOPERATION ACTIVITIES

DIVISION OF FOOD PREVENTION AND CONTROL
PROGRAM ON VETERINARY PUBLIC HEALTH

Pan American Health Organization
Pan American Sanitary Bureau, Regional Office of the
World Health Organization

Pan American Institute for Food Protection and Zoonoses - INPPAZ



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INPPAZ - PAHO/WHO Mission

"To provide the member countries of the Organization, as well as their integration initiatives, with services in the form of technical cooperation, reference, and research for the solution of problems related to sanitary food protection, zoonosis control, and the strengthening of health laboratories."

CONTENTS

EXECUTIVE SUMMARY

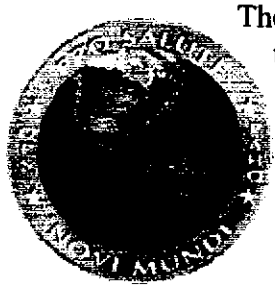
The present document gives an account of the activities and results of the technical cooperation provided by the Pan American Institute for Food Protection and Zoonoses (INPPAZ), Pan American Health Organization/World Health Organization (PAHO/WHO) during the biennium 1997-1998.

The report describes the structure of the Institute and of its advisory bodies, as well as the available resources and the strategies used by the INPPAZ PAHO/WHO during the period in carrying out its cooperation activities with the PAHO Member Countries.

For the purpose of their presentation in this report, the relevant results of the Institute's technical cooperation have been grouped in accordance with two PAHO/WHO projects: the Regional Program for Technical Cooperation in Food Protection and the Program for the Prevention, Control, and Eradication of the Main Zoonoses. The Annexes summarize the training activities carried out by the INPPAZ alone, and jointly with other national and international organizations, with indication of the number of the professionals and countries participating , as well as the Institute's participation in other events and a list of its technical publications .

During the period, training and reference activities, both in food protection and zoonosis control were given priority and awarded most of the available resources because they represent the Institute's main responsibility.

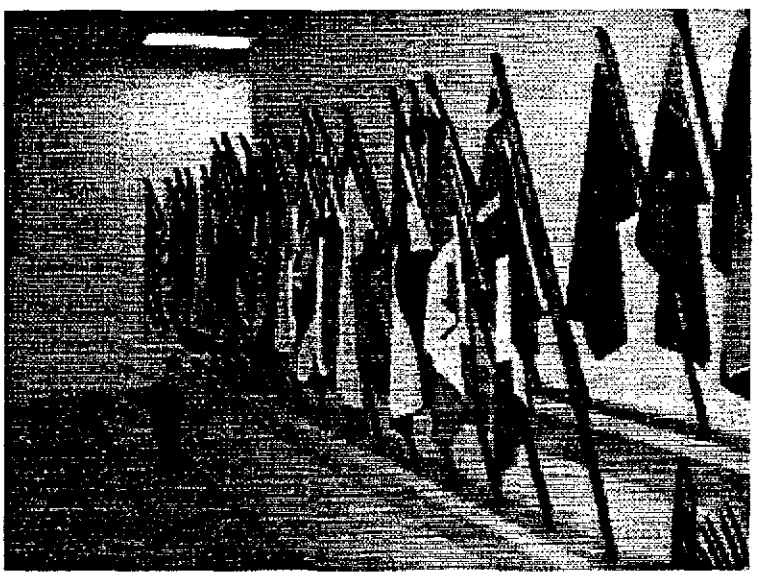
In compliance with the orientations of the PAHO Governing Bodies regarding the changes in the Institute's mission, direct technical cooperation to the countries during the biennium was oriented on a priority basis to the organization of integrated programs for food protection. With respect to the zoonoses, the INPPAZ continued to provide reference services to the countries in the Region regarding diagnoses and the production and distribution of standard reagents, particularly for rabies and tuberculosis. It also continued coordinating the Regional Rabies Epidemiological Surveillance System for the Americas. As had been agreed upon, the process of transferring the zoonosis activities to the Pan American Foot-and-Mouth Disease Center (PANAFTOSA) was initiated.



The last section of the report deals with the programming of the INPPAZ technical cooperation for the forthcoming years, taking as a reference the Institute's Strategic Plan of Action, the Orientations of the Governing Bodies and the Strategic and Programming Orientations for the Pan American Sanitary Bureau (PASB) 1999-2002, as established by the Pan American Sanitary Conference.

1 INTRODUCTION

The Pan American Institute for Food Protection and Zoonoses (INPPAZ) was created on 15 November 1991 through an agreement with the Government of Argentina, in response to a request made by the Director of the Pan American Health Organization, Regional Office of the World Health Organization (PAHO/WHO) and the ministers of health and agriculture of the Member Governments in April of the same year, to the effect that it continue to provide technical cooperation on a comprehensive and permanent basis in the field of food protection and zoonosis control. The INPPAZ has its headquarters in Martínez, Province of Buenos Aires, and is part of the network of PAHO specialized centers; technically, it is attached to the Division of Disease Prevention and Control (HCP), and carries out its activities in coordination with the Program on Veterinary Public Health and the PAHO/WHO Representative Offices in the countries.



1.1 Mission

"To provide the Member Governments of the Organization, as well as their initiatives for integration, with international references services, technical cooperation, and research for the solution of problems related to food protection, zoonosis control and the strengthening of health and agriculture laboratories."

1.2 Structure

The organizational chart of the Institute comprises the Office of the Director and three Groups: a) Program development, b) Standardization, regulations and reference, and c) Training and information, and three supporting units: Administration, Systems, and Engineering and Maintenance. In addition, the INPPAZ PAHO/WHO has three advisory bodies:

- **The International Coordination Council (ICC):** composed of the Ministers of Health and of Agriculture of the countries in the Region, whose function is to advise the Director of the Organization on the orientation of the Institute's priorities and strategies, the evaluation of its activities and the fulfillment of the agreement between the Government of Argentina and the Organization. The Council held meetings in 1993, 1994, and 1997, respectively.

- **The Scientific and Technical Committee (STC):** composed of experts convened by the Director of the Organization for the development and scientific and technical analysis and evaluation of the INPPAZ program of work. It held two meetings, the first in 1994 and the second in February 1999.

- **The Program Committee for Argentina (PCA):** composed of representatives of the Ministry of Health and the Secretariat of Agriculture, Livestock, Fishing and Nutrition of Argentina, and of PAHO. It provides support to the programming, execution and evaluation of the technical cooperation activities that the INPPAZ carries out in Argentina. This Committee holds annual meetings.

1.3 Program

The technical cooperation that the INPPAZ provides to the countries in compliance with the mandates and recommendations of the Governing Bodies of PAHO and the Institute's advisory bodies, consists in its technical and operational support for the development of two projects: the Regional Program for Technical Cooperation in Food Protection, and the Program for the Prevention, Control and Elimination of the Zoonoses: rabies, tuberculosis, brucellosis, and other.

The fundamental purpose of the Institute's Program for Technical Cooperation is to reduce the risks for human populations resulting from food-borne diseases and from communicable diseases from animals to man.

The project on food protection is a part of the PAHO Regional Program for Technical Cooperation and its structure includes the following five components:

- Organization of national integrated food protection programs
- Strengthening of the analytical capacity
- Strengthening of the inspection services
- Epidemiological surveillance of food-borne diseases
- Food protection promotion through community involvement.

In the project related to the zoonoses, priority was given to rabies and tuberculosis. As regards other zoonoses, the Institute responded to special requests for cooperation from the countries.

In programming the activities for the period, special account was taken of the recommendations of the External Working Group convened in 1996 to advise the Director of PAHO on the Program on Veterinary Public Health. Those recommendations, which had been approved by the Governing Bodies, stated that when programming its activities, the Institute should give priority to providing the countries with technical cooperation in food protection.

Organization's technical cooperation approaches

- *development of policies, plans, and standards*
- *training*
- *dissemination of information*
- *research*
- *direct technical cooperation*

In carrying out the programs with the countries, the Organization's points of view on technical cooperation are followed, including those on the development of policies, plans and regulations, training, dissemination of information, research, direct technical cooperation, and mobilization of resources. Use is made of PAHO's infrastructure in the countries , as well as of the INPPAZ consultants and those of the Program on Veterinary Public Health in the central office and in the countries.

1.4 Resources

Human Resources

The approved staff roster includes 50 posts: 7 international and 10 local professionals, in addition to 33 assistants. At present, there are 4 international and 5 national professionals, and 22 assistants. Under an agreement with the Government of Belgium, the WHO assigned an associate professional to the Institute. Currently the appointment of two international and three national professionals is under consideration.

Physical Resources

The Institute's premises are located in Martinez, Province of Buenos Aires, in an 11,274 square meters plot, where the buildings for offices, laboratories, a library, an auditorium and the administration facilities cover a total of 6,348 square meters.

2. TECHNICAL COOPERATION STRATEGIES

The technical cooperation strategies of the INPPAZ were directed to:

- Strengthening the institutional organization in the countries for the purpose of ensuring food safety on the basis of integrated programs, while promoting sound collaboration among the sectors involved throughout the food production chain.

- Coordinating the actions aimed at mobilizing resources with the PAHO/WHO Collaborating Centers in food protection, as well as among the countries in the Region, while supporting technical cooperation among them.

- Establishing coordination and alliances with other international agencies, non-governmental organizations and the private sector for planning the better use of resources for technical cooperation activities in food protection and zoonosis control.

- Promoting in the population social mobilization and communication, as well as health education on aspects related to control measures aimed at preventing food contamination and favoring a responsible attitude vis-à-vis the management of those aspects.

- Strengthening interprogramming coordination in food protection with PAHO/WHO related areas and promoting that coordination within the countries.

3. TECHNICAL COOPERATION RESULTS

The results of the INPPAZ PAHO/WHO technical cooperation with the countries in the region are described hereafter on the basis of the components of the PAHO Regional Program for Technical Cooperation in Food Protection and of the Program for the Prevention, Control and Elimination of the Zoonoses.

3.1 Food protection

3.1.1 Organization of integrated national programs for food protection

Cooperation was provided to the countries in the strengthening of their institutional capacity in terms of food protection, on the basis of intersectorial coordination and the organization of national food commissions.

Despite the fact that all the countries in the region carry out food control activities, such activities are not always based on a national organized control program.

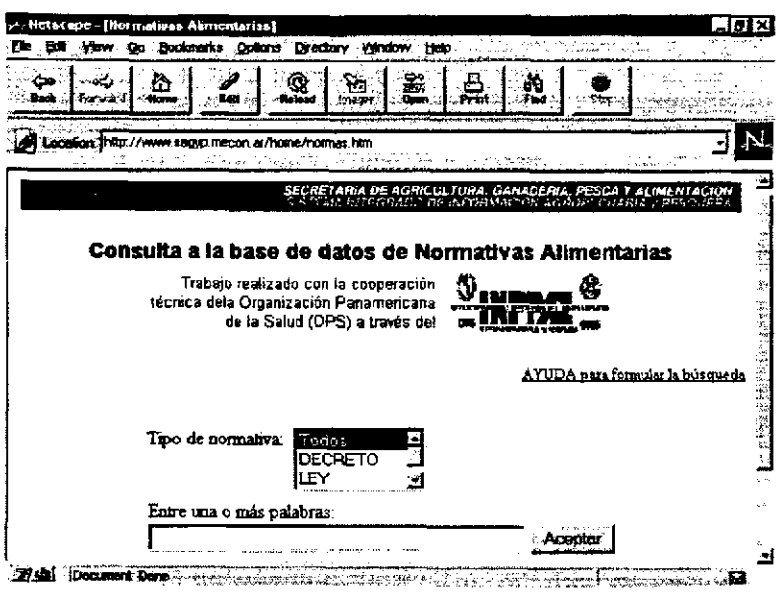
The countries that made greatest advances in terms of an integrated national program for food protection were: Argentina, Cuba, Dominican Republic, Jamaica, Mexico, Panama, Paraguay, Peru, and Uruguay.

In Brazil, an important achievement was the establishment of the Food Intersectorial Commission in the State of Sao Paulo, headed the Secretariats of Health and Agriculture. INPPAZ PAHO/WHO cooperated with the authorities in preparing the guidelines for the Commission's operation. In view of Sao Paulo's significant role in the nation, it is hoped that progress in food protection intersectorial coordination in the State of Sao Paulo will foster similar initiatives in other Brazilian states.

Bolivia set up its National Food Protection Commission in 1998. The preparation and discussion of the National Program were completed, and its execution was initiated.

In Uruguay, intersectorial agreements were concluded and the responsibilities concerning food protection were established and set forth in a document agreed upon during a national seminar, which was subsequently authorized by the Executive Branch.

With the cooperation of the Latin American and Caribbean Center for Information on Health Sciences (BIREME PAHO/WHO), a system with a database on the food legislation of the countries and the sub-regional integration initiatives was developed. It can be visited on the Internet (http://www.bireme.br/cgi-bin/inppaz/Ali00Srch0). The purpose of the system is to enhance consultations within and between countries, to update and harmonize legislation and to facilitate food trade. The system has been planned to allow for consultations, the updating and comparison of different national food regulations and their future standardization and harmonization. The program was delivered to the South American countries in a workshop carried out by INPPAZ at the BIREME headquarters in Sao Paulo, Brazil, in 1997. The Central American countries, Cuba, the Dominican Republic, Haiti and Mexico, were introduced to the system during another workshop conducted in Guatemala in October, 1998. At present, the legislation of Argentina and in part that of Brazil, Paraguay and Uruguay are available in the system. The MERCOSUR and Andean Community food regulations were also included in the system. The success of this project depends on the involvement and efforts of the countries to incorporate their legislation into the system.



Following the workshop carried out in Sao Paulo, Argentina requested technical cooperation from INPPAZ to organize its national system on food regulations, in the framework of the Quality 2000 Project. Until 1998, the system was delivered to 12 provinces in the country and 12 training workshops for the system users were carried out at the provincial level. The system is included in the National Secretariat of Agriculture, Livestock, Fishing and Nutrition webpage (http://www.sagyp.mecon.ar/ho me/normas.htm).

To support the activities of the Codex Alimentarius National Commissions, the information and the documents on the activities of the Committees have been circulated. In addition, the participation of public officials in the work of the commissions has been encouraged.

Together with the University of California, Davis, the second meeting of the WHO Collaborating Centers in Food Protection was held for the purpose of reviewing the functions of the collaborating centers and strengthening their participation in the region's food protection programs.

A cooperation project with the Argentine National Service of Agriculture Products and Food Quality and Safety (SENASA) was initiated to establish a quality management program for its services. It is hoped that the results of the experience generated by the project can be transferred to similar services in other countries.

By virtue of an agreement with the University of Buenos Aires (UBA), the National Food, Drugs and Medical Technology Administration (ANMAT) and SENASA, a new specialization.in Agriculture Products and Food Safety and Quality was created, to be taught at the School for Veterinary Studies of the UBA. The purpose is to provide continuous education in the food protection to public officials.

3.1.2 Strengthening of the analytical capacity

Cooperation in this field has been oriented to supporting activities related to microbial and chemical contaminants through the organization of laboratory networks with quality assurance systems as a complement of the inspection services and epidemiological studies on contamination risks.

During the period, cooperation was provided through direct technical advisory services, the supply of microbiological and chemical standards, laboratory assessment and the training of skilled professional staff.

In the course of a meeting organized by the INPPAZ in December 1997 at PAHO headquarters in Washington DC, the Inter-American Food Analysis Laboratory Network (RILAA) was created with the participation of 24 countries in the Region.

In order to the notions of equivalence and transparency as well as the exchange of information and to strengthen the FBD epidemiological surveillance, the network has the following general objectives: harmonization of analytical methods, development and implementation of quality management systems and scientific and technical cooperation among countries.

In December, 1997, the RILAA's Provisional Executive Committee was set up. INPPAZ PAHO/WHO was appointed ex officio Secretariat, in coordination with the United Nations Food and Agriculture Organization (FAO). Two Executive Committee meetings were bolstered, which led to the preparation of the Network Bylaws and the 1998/1999 Action Plan. The activities of the plan started with the formalities with the Inter-American Development Bank (IDB) to obtain funds for the RILAA, a survey to identify the laboratories to be part of the network and the encouragement to organize national laboratory networks.

Technical cooperation was provided to the Guatemalan Ministry of Health through the establishment of a system for managing inventories and planning and controlling production in the laboratories on the basis of the project developed at INPPAZ PAHO/WHO.

During the period 1997-1998 the Institute focused its food microbiology activities on strengthening the national laboratories capacity to analyze and identify emerging pathogenic microorganisms, mainly *E. coli* O157:H7, *Campylobacter jejuni*, *Yersinia enterocolitica*, *Salmonella enteritidis* and *Listeria monocytogenes*.

Microbial contaminants

Together with the SENASA and the National Food Institute of Argentina (INAL), and the support of the WHO

Collaborating Center on Enteric Diseases Diagnosis of the University of Missouri, USA, a project is being developed to establish in the official food analysis laboratories in the region the techniques required for the isolation and identification of the previously mentioned emerging pathogens

Within the framework of the above-mentioned project, a course was organized for 13 officials of both INAL and SENASA of Argentina and one person from the Chilean Agriculture and Livestock Service (SAG). A second course was conducted in August 1997, during which 12 laboratory workers of the Andean Region and Central America were trained. A seminar on seminar on rapid diagnostic methods was also organized: 70 professionals of the public and private sectors of Argentina attended the seminar.

Updated information on analytical techniques related to microbiological contaminants was gathered and disseminated. With the cooperation of officials of the United States Department of Agriculture(USDA) and the Food and Drug Administration(FDA), a handbook in Spanish on the technical background for a quality assurance program for food microbiology laboratories was prepared; it is available on the INPPAZ web page: (http://www.inppaz.org.ar)

Reference strains were distributed to 13 countries in the region as detailed on the following table:

Distribution of Bacterial Reference Strains.

REAGENTS	COUNTRIES
• *E. coli O157:H7* • *Yersinia enterocolitica* • *Listeria monocytogenes* • *Listeria innocua* • *Salmonella enteritidis*	Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Venezuela.

Chemical contaminants

During the period cooperation has been provided to the countries' chemical residue control programs, with emphasis on the aspects related to analytical quality assurance of the food laboratories, based upon the international standards provided in ISO-9000/GUIDE-25.

International acceptance analysis techniques have been implemented. They include the 50 main chemical contaminants found in meat, seafood, dairy products, eggs, grain, fruit and vegetables.

An interlaboratory test was carried out to assess the performance of laboratories working in the analysis of organochlorine pesticide residues in food. Twenty-two health and agriculture laboratories in twelve

agriculture laboratories in twelve Latin American countries and the Caribbean took part in the test. The results, generally satisfactory, were those to be expected in the first phase of the program and made it possible to detect opportunities for improvement and to identify technical cooperation priorities. This will bring about continuity when similar tests with other chemical contaminants are organized.

The INPPAZ also took part in the technical-operational assessment of SENASA's chemical residue control laboratory network in Argentina, carried out by the National Comptroller.

The supply of pesticide standards was continued to make up for the shortage of these substances in the national laboratories.

Summary of the Distribution of Pesticide Standards

SOLUTIONS (*)	COUNTRIES
• Individual Stock Solutions • Concentrated Solutions of Several Compounds • Working Solutions • Enriched Samples	ARGENTINA (6 centers), JAMAICA, MEXICO, VENEZUELA, URUGUAY.

* A total of 144 patterns were distributed.

Support was provided to Argentine institutions (INAL, INTA and SENASA) for detecting chemical residues in food samples: pesticides 11, lead 6, mycotoxins 67, mercury 59 and arsenic 88.

. At present, the first version of the quality assurance plan for the chemical residue analysis sector has been completed and technical cooperation to food laboratories of Argentina has been provided.

The INPPAZ laboratory quality assurance project was continued, in accordance with ISO-9000/GUIDE-25 standards

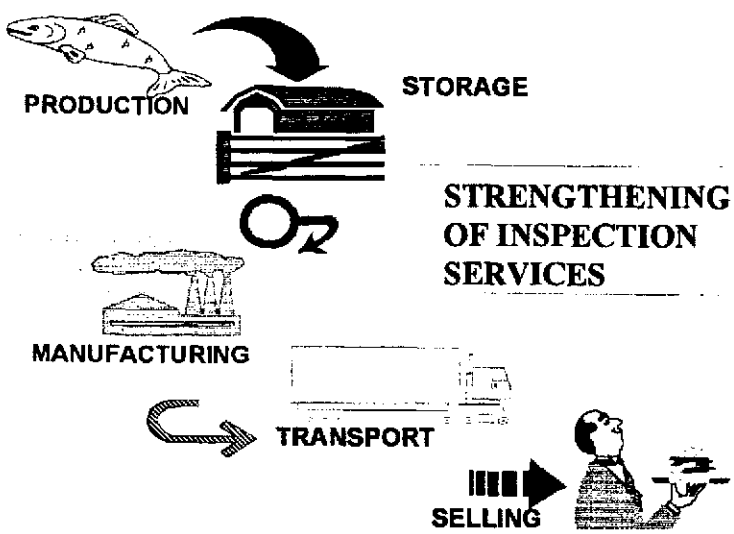
Within the framework of the INPPAZ PAHO/WHO agreement with the Chilean Agriculture and Livestock Service, support for the organization of chemical contaminant control programs in food was also provided. As a result of the participation of international experts, plans and guidelines were prepared in 1997 and 1998 for the control of chemical residues in meat, vegetables and fruit, and different officials have been trained in: program

management, quality control and quality assurance, analysis techniques and laboratory assessment.

For the dissemination of information linked with problems of chemical contaminants, a section with profuse information within the Home Page of the Institute has been prepared at (http://www.inppaz.org.ar/MENUPAL/paseo/lir/residuos/menures.htm)

3.1.3 Strengthening of inspection services

The technical cooperation provided by INPPAZ PAHO/WHO in this component aims primarily at strengthening the national inspection services capabilities and at supporting their efforts to update their inspection and food protection systems. In this regard, the countries have been encouraged in the two years covered by the report to adopt Good Manufacturing Practices (GMP) as well as the Standard Sanitary Operational Procedures (SSOP) as prerequisite programs for the implementation of the Hazard Analysis and Critical Control Point (HACCP) system in the food production chain for domestic consumption and export, within an overall food safety improvement scheme.



The national priorities in this field were established by the countries: a) to meet their commitments stemming from the compulsory nature of the international food trade regulations, especially those of the United States and the European Union, which are their main export markets for goods such as meat and fish and b) to make further progress in complying with the provisions of the World Trade Organization (WTO) Agreements, especially the Equivalence Principle contained in the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS).

For the same purpose, a course was organized jointly with the International HACCP Alliance for fish and the University of Florida for training HACCP trainers, which was attended by 90 specialists of the public and private sectors, as well as members of the universities of 19 countries.

In order to meet the technical cooperation requests for the training of the countries' officials, a training course on HACCP for 16 consultants of PAHO Program on Veterinary Public Health was organized jointly with the International HACCP Alliance for meat and poultry of the University of Texas A&M (USA). This group is in charge of organizing courses in all the countries in the region.

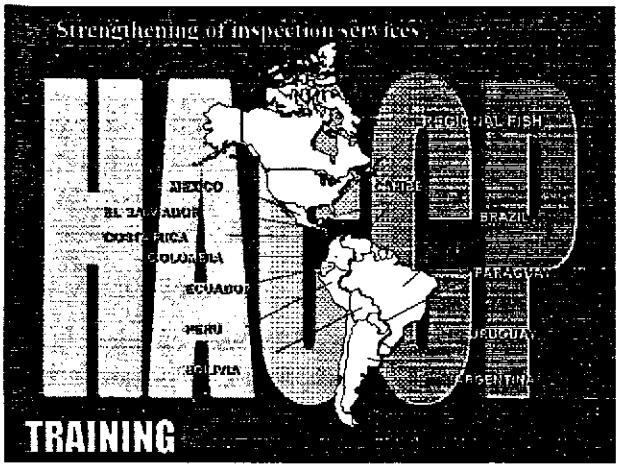
In order to meet the countries' requests, the activities included in this component were focused mainly on the spreading of information, training of personnel, assistance in the preparation of standards and support for the use of other institutions' resources.

The main achievements in this component were:

- Adapting training materials in order to enhance the harmonization, development and implementation of prerequisite programs and the HACCP system in the region.

- Fostering a better interaction among official food protection organizations, mainly health and agriculture agencies, as well as a greater synergy between them and the scientific community, the academic sector and the consumer.

- Encouraging the public and private sectors to adopt HACCP as a control philosophy and not as a regulatory obligation; to be implemented in the production processes of products both domestic consumption and export.



During the period of the report, all Central American and English-speaking Caribbean countries attended courses and workshops related to food inspection and control sponsored by the technical cooperation provided by INPPAZ PAHO/WHO for the purpose of promoting the standardization of training programs in the region and fostering cooperation between the industry and the government. In the period 1997-1998, the total number of participants of the countries in these events amounted to 758.

Likewise, direct technical advisory services were provided to the countries most affected by hurricanes in 1998 (the Dominican Republic, Honduras, and Nicaragua) by organizing inspection and food protection activities during the disaster itself.

The cooperation activities have endeavored to consolidate the necessary changes in the role that the inspection official should play in adopting modern inspection and control approaches through support to the preparation of standards on the adoption of the HACCP system in the countries. At present, Argentina, Brazil, Chile, Colombia, Panama, Peru, and Uruguay have adopted regulations in this field.

Examples of the outcome of technical cooperation are: the development in the countries of specific projects related to this component, such as the adoption of the HACCP system and prerequisite programs in hospital kitchens in Panama; comprehensive training to strengthen the inspection services in Brazil and the joint development of academic programs between the National Autonomous University of Mexico and the University of Buenos Aires on subjects related to inspection and control.

The joint cooperation activities with other international organizations have been strengthened. The most important ones are: a) The development of a Pan American Meeting on Inspection and Quality Control of Fishing Products, with INFOPESCA/FAO,

b) the Workshop on Training Needs for Quality and Food Safety Assurance on Fruit and Fresh Vegetables in Mexico and Central America and the development of Training the Trainers in GMP and HACCP Courses for Argentine public officials, together with FAO, c) a Consultative Meeting on the role of the State in supervising the HACCP system, in conjunction with both WHO and FAO. These jointly carried out events are examples of the effort to pool resources and increase the skills with other organizations, in the field of technical cooperation with the countries of the region.

As a pilot experience on distance training of food inspectors at both local and provincial levels, a module for distance training was developed together with the INAL of Argentina. The experience to be gathered will pave the way for such training to be implemented in other countries in the region.

3.1.4 Epidemiological surveillance of food-borne diseases

In 1994 INPPAZ started to organize a Regional Information System for the Epidemiological Surveillance of Food-borne Diseases (RISES-FBD). In compliance with the recommendations of the Regional Seminar-Workshop for Focal Points for the Epidemiological Surveillance of Food-borne Diseases (ES-FBD), **a systematic gathering of information since 1995 was carried out through quarterly reports sent by the INPPAZ countries, which made it possible to organize a database on Food-borne Diseases (FBD), the sole in the region.**

> The activities were focused on fostering a synergy between the epidemiological and inspection services of the countries for the purposes of organizing the national surveillance systems on FBD.

In the period 1997-1998, national meetings were held on ES-FBD in Argentina, Brazil, Costa Rica, Ecuador, Guatemala, Mexico, Panama, Paraguay and Uruguay. Direct technical advice for the development of a National System of ES-FBD was provided to Argentina, Brazil, Chile, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Mexico, Panama, Paraguay and Uruguay.

As a support for the training activities, 2000 copies of the "Guide for the establishment of epidemiological surveillance systems of food-borne diseases (VETA) and the investigation on outbreaks of food toxi-infections " (GUIAVETA) were distributed to the countries. The publication is also available on the INPPAZ Home Page at: (http://www.inppaz.org.ar/menupal/inftec/fos/ve_eta/guiaveta/contenido.html).

Another fact worth mentioning is the cooperation for the progress achieved in Brazil regarding the political definition as well as the coordination between and within sectors for the implementation of ES-FBD. The authorities have officially established the ES-FBD system in the country as well as an inter-institutional working group for its implementation. INPPAZ, together with the PAHO/WHO Representation in Brazil, has continuously supported the project. The result has been the preparation of an integrated manual on epidemiological surveillance for the prevention and control of FBD, and the training of the ES-FBD teams, beginning with the national officials and those of four states.

In Uruguay the ES-FBD System has been implemented in 8 departments of the country, with an inter-institutional approach. Over this period, INPPAZ has provided cooperation in the organization of staff training workshops for implementing the System in the departments of Salto and Rivera. The contributing factors of the outbreaks investigated were identified and control measures were introduced.

As a result of technical cooperation, 19 countries of Latin America and the Caribbean have sent information on outbreaks of FBD to the RISES-FBD in the period 1995-1998, coordinated by INPPAZ. The information thus analyzed makes it possible to identify some trends on etiologic agents, food products and locations but it is still not possible to reach conclusions due to the great variation and disparity of the data received. In a nutshell, the analysis of the data accumulated over that period indicates the following:

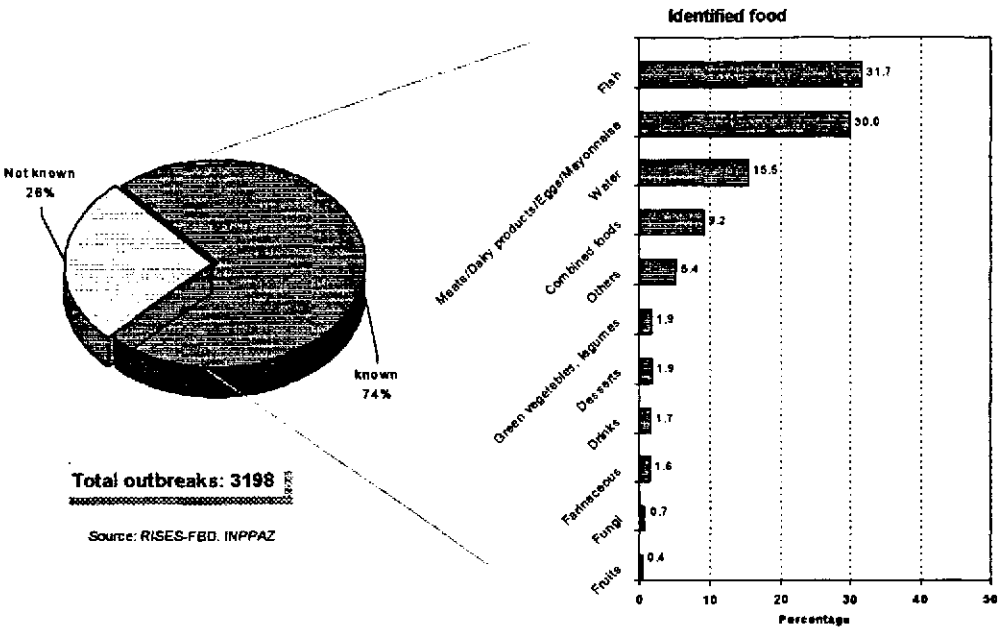
A total of 3198 outbreaks of FBD were reported, affecting 102,842 people, of which 191 died. In 74% of the outbreaks, the food associated with or causing the outbreak was identified. Animal-based foodstuffs, including fish, were responsible for 62% of these cases.

Number of FBD outbreaks, people affected, average number of people affected by each outbreak and number of people deceased.
Latin America and The Caribbean - 1995/1998.

Country	Num. outbreaks	Affected persons	Average Affected persons/outbreak	Deaths
ARGENTINA	40	567	14.18	0
BAHAMAS	72	8602	119.47	0
BARBADOS	2	7	3.50	0
BRAZIL	86	6564	76.33	1
CHILE	337	4084	12.12	2
COSTA RICA	32	73	2.28	0
CUBA	1823	64208	35.22	25
ECUADOR	38	1514	39.84	12
EL SALVADOR	21	497	23.67	2
GUATEMALA	20	152	7.60	7
JAMAICA	3	99	33.00	0
MEXICO	292	8320	28.49	74
NICARAGUA	77	411	5.34	0
PANAMA	6	95	15.83	0
PARAGUAY	53	743	14.02	0
PERU	50	2258	45.16	60
DOMINICAN REP.	55	292	5.31	0
URUGUAY	52	1371	26.37	0
VENEZUELA	139	2985	21.47	8
TOTAL	**3198**	**102842**	**32.16**	**191**

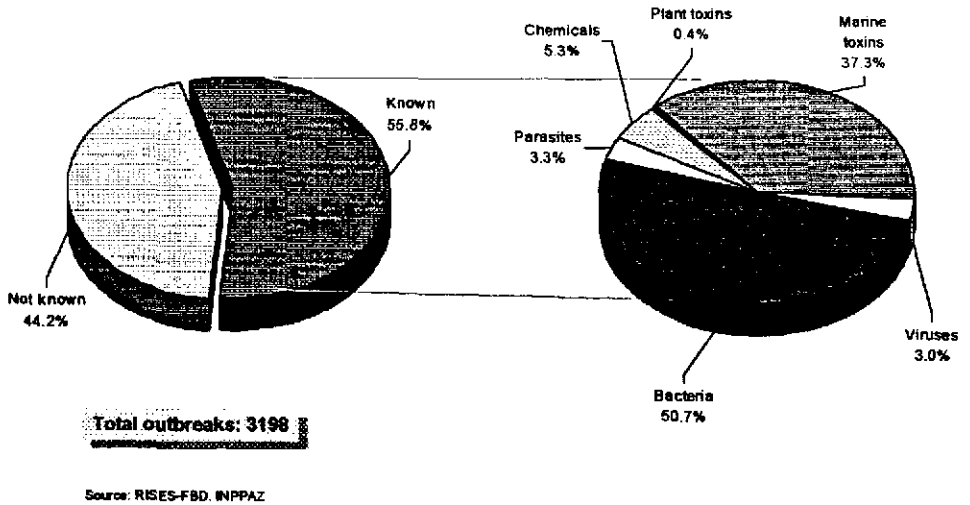
As far as food is concerned, the data on fish are biased by the existence of epidemic periods of ciguatera in some countries and by the higher efficiency of surveillance in these same countries.

FOOD-BORNE DISEASE OUTBREAKS IN THE AMERICAS BY FOOD INVOLVED, 1995-1998.



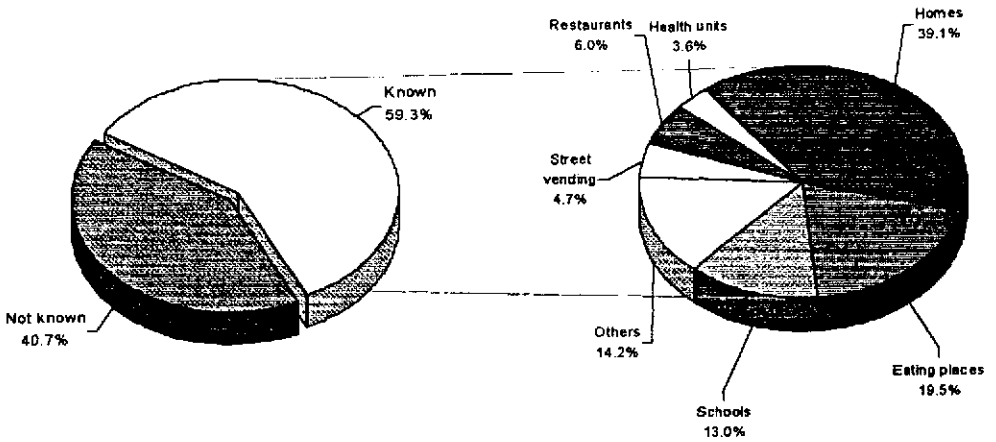
The etiologic agents was identified in 56% of the 3198 reported outbreaks. Of these, 51% were caused by bacterial agents, mainly Staphylococcus sp., Salmonella sp., Escherichia coli and Clostridium perfringens, in this order.

FBD OUTBREAKS IN LATIN AMERICA BY ETIOLOGICAL AGENT, 1995-1998.



Regarding the place of occurrence, in 59% of the outbreaks the information was obtained. Most frequent locations were: dwellings (40%), public eating parlors (21%), schools (13%), restaurants (8%), street stands (5%), and health units (4%).

FBD OUTBREAKS IN LATIN AMERICA BY PLACE OF CONSUMPTION, 1995-1998.



Total outbreaks: 3198

Source: RISES-FBD. INPPAZ

A RISES-FBD evaluation exercise was carried out in 1998. The results will be helpful to reorient the cooperation activities and as a reference for assessing the national systems. The main conclusions were:

- *For the first time in the region, an FBD surveillance information system is available. It makes it possible to organize a database on the main characteristics on the incidence of FBD in the region.*

- *The System provides information on some FBD risk factors in the reporting countries. However, it still does not permit to extrapolate trends about the countries or the region.*

- *The coverage of the system needs to be expanded, by adding the remaining countries, including Canada and the United States, and by increasing the number of reporting units in all countries.*

- *The quality of the information gathered and transmitted to the system by the countries by means of the quarterly report needs to be improved. The same holds true for the regularity with which the report is sent.*

- *The design of the quarterly report should be reviewed in order to include information on the causal factors of the FBD outbreaks.*

- *It is necessary to standardize the terms used to notify the type of food and locations involved in the outbreaks, in order to facilitate the analysis of the information and its comparison between the countries.*

- *The improvement of the Information System on FBD in the region is a basic condition for developing risk analysis studies and for facilitating the implementation of the HACCP system.*

EN LAS AMERICAS

INTEGRAR LAS INSTITUCIONES

Tendencia en los programas de inocuidad de alimentos.

The data on FBD received are analyzed and disseminated through the information bulletin "INPPAZ in the Americas", and on the INPPAZ web page **(http://www.inppaz.org.ar/)**.

Likewise, the System and its results have been introduced in international meetings in Argentina, Bolivia, Brazil, Germany, the Netherlands, Peru and the United States.

3.1.5 Food protection promotion through community involvement

Cooperation focuses directly on the promotion and prevention actions to be developed by the countries through active participation of the community. The information on FBD reveals that high percentages of disease outbreaks are attributable to inadequate food handling in homes and kitchens for the community, which suggests the need for intervention actions geared at involving the population in FBD prevention and at creating a food safety culture.

In order to widely disseminate the information available on food safety, the INPPAZ web page was created on the Internet and a virtual library is being developed that will contain information for different community levels.

Based upon the experience gathered by PAHO in Peru through a project financed by the Swedish government, the elements developed are being used for training food handlers and vendors and to educate the community on hygienic food handling.

During the emergency situation caused by hurricanes in Central America and the Caribbean, educational material on management of food products during disasters has been generated and disseminated to the main countries affected.

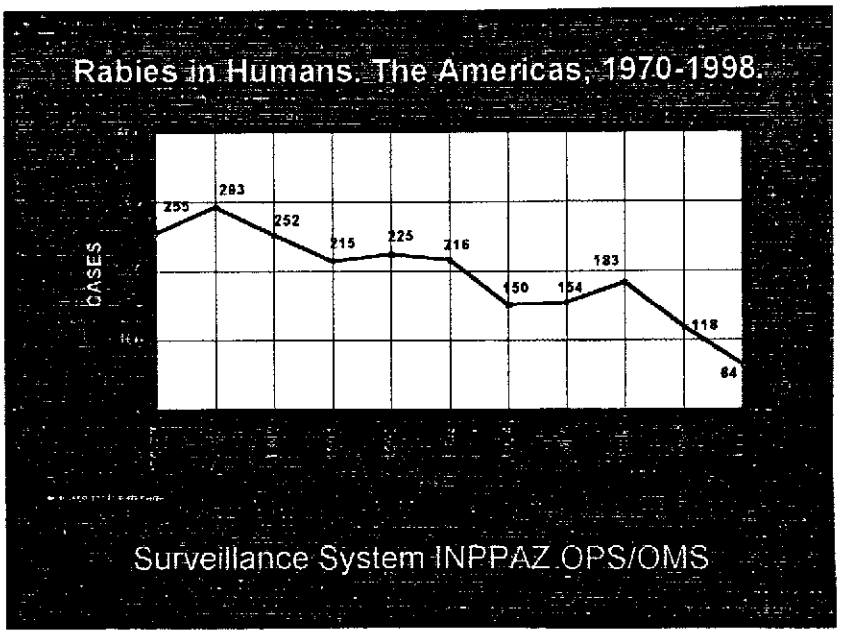
INPPAZ prepared a document on "Food Safety Assurance during Natural Disasters" that was distributed to the countries and is also available on the Institute's Web Page.

To foster the prevention of cholera on the Argentina - Bolivia border, INPPAZ PAHO/WHO cooperated with the bi-national project Arbol II in training the trainers on the handling of food products sold in the streets.

3.2 Technical cooperation results in zoonoses

3.2.1 Rabies

The Program for the Elimination of Rabies in Latin America was initiated in 1983, in compliance with the recommendations of the III Inter-American Meeting on Animal Health, at the Ministerial Level (RIMSA III).



During 1997 and 1998, the INPPAZ continued providing reference services with emphasis on the incorporation of modern techniques for rabies diagnosis, such as strain characterization by monoclonal antibodies and training in PCR.

The Institute was responsible for coordinating the Regional Rabies Information and Surveillance System in the Americas. Weekly reports were received from all the countries and each year 52 weekly reports were published and distributed to the countries in the Region. Vol. XXVIII and XXIX of the Bulletin *Epidemiological Surveillance of Rabies in the Americas* for the years 1996 and 1997, were issued.

Support was provided to the countries for diagnostic tests in nervous tissue samples, virus characterization and serological tests.

Summary of Reference Diagnosis Activities

SERVICE	DESCRIPTION
Samples for diagnosis	106 nervous tissue samples from Uruguay and Argentina were processed.
Virus characterization	101 virus rabies isolates sent by Argentina and Belize were characterized with monoclonal antibodies.
Serology	Reference serological tests were performed on 76 human sera sent from Argentina.

The INPPAZ continued to develop standard reagents and techniques for the control, evaluation, and validation of vaccines by means of collaborative studies with national institutions, as recommended by the WHO.

The following table shows the distribution of reference biologicals to 15 countries in the Region:

Distribution of Reference Standards

REAGENTS	COUNTRIES
• Rabies conjugate • CRL reference rabies vaccine • BHK reference rabies vaccine • Rabies seed virus/mouse • Rabies seed virus/BHK-C13 • Indicator serum for CIE • Antigen for CIE • BHK and VERO cells	ARG, BOL, BRA, CUB, ECU, ELS, GUA, HON, MEX, NIC, PAR, PER, DOR, URU, VEN.

Reference quality control was performed on 21 batches of rabies vaccine for human and veterinary use sent by seven countries: Argentina, Colombia, Ecuador, Mexico, Panama, Peru and Venezuela.

A batch of PV-VERO reference vaccine and a batch of PV-BHK reference vaccine were produced and standardized; both are candidates for Regional Reference. The protocols for the pertinent validation studies were prepared.

Two batches of hyperimmune equine rabies serum were prepared in collaboration with SENASA/GELAB for the production of rabies serum, as well as one batch of reference antigen and one batch of indicator serum for the CIE serology test.

Technical cooperation was provided to the Central Veterinary Laboratory of the Dominican Republic for the implementation of a quality assurance system for the production and quality control of rabies vaccines.

The quality of the rabies diagnostic tests performed by the National Reference Laboratory (Mexico) and the Rabies Center in Chaco (Argentina) were monitored from INPPAZ.

A rapid partition method for purifying rabies virus for the quality control of small-volume rabies vaccine samples was modified and evaluated. The research was carried out jointly with the University of Buenos Aires.

A collaborative study for validating reference reagents to be used in the CIE test for the *in vitro* control of rabies vaccines was carried out with the participation of five institutions of Argentina.

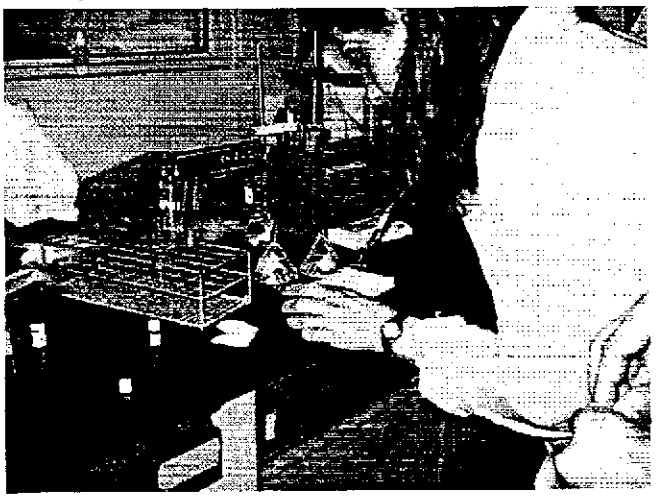
In addition to the laboratory activities in support of the regional program for rabies control, the INPPAZ continued assisting and participating in policy-related and technical activities, such as:

- *The VI Meeting of National Heads of Rabies Programs, held in Quito, Ecuador in 1997.*
- *The coordination of activities between ANLIS and GELAB for Argentina's participation in the Consortium for Rabies Laboratory Diagnosis.*

3.2.2. Tuberculosis

The Plan of Action for the Eradication of Bovine Tuberculosis in the Americas was adopted by the American countries at the International PAHO/WHO Meeting, held in Saltillo, Mexico, in November 1991.

During the period 1997-98, Argentina, Brazil, Bolivia, Chile, Colombia, Jamaica, Mexico, Paraguay, Peru, Central America (PAHO/PARSA-OIRSA project), Dominican Republic, Uruguay, and Venezuela, received INPPAZ cooperation through the supply of PPD tuberculin, reference biologicals, quality control of the reagents produced in the Region's laboratories, training, in-service training, and direct technical advisory services.



In Argentina, the INPPAZ forms part of the National Brucellosis and Tuberculosis Commission (SENASA) and one of its main contributions was its support to the tuberculosis epidemiological surveillance system and the accreditation of government and private veterinarians, who promote the strategy of increasing the involvement of cattle raisers in the control of the disease.

Support was provided to SENASA for carrying out a study of national scope on the diagnosis of tuberculosis in slaughterhouses and preparing the handbooks for field use and

diagnosis of the National Program for the Eradication of Bovine Tuberculosis, as well as for the training of 36 officials of the program.

The infrastructure of the laboratory network responsible for the quality assurance of the reagents employed in field and laboratory diagnosis was strengthened; in addition, cooperation was also provided to international agencies. To this end, the following reference activities were carried out:

During the period, the Institute continued to serve as Reference Laboratory for the International Office of Epizootics (IOE) for the countries in the Region. In support of the Programs for the Control of Tuberculosis in Public Health, the INPPAZ cooperates with the WHO (Global TB Program) since 1994 as International Reference Laboratory in the quality control of sensitivity tests of antituberculosis drugs.

- The biological potency of dilutions of PPD for human use prepared in the countries was controlled, as well as the quality of culture media and the biological activity of isoniazid batches.

- Regarding the quality control of BCG vaccine, INPPAZ serves as Reference Laboratory designated as such by the WHO since 1992, within the GPV Project (Global Program for Vaccines and Immunization, WHO).

Summary of Diagnosis Activities and Reference Services

SERVICE	N° SAMPLES/ BATCHES	COUNTRIES
Quality control of BCG vaccine	35	URU, COL, BRA, DENMARK, JAPAN, BULGARIA
Quality control of bovine and avian tuberculin	8	ARG, BRA, CUB, DOR, HON, PAR, URU, VEN
Quality control of human PPD	9	ARG, BRA, COL, DOR, GUAT, MEX, NIC, PER, VEN
Regional reference for mycobacterium sensitivity tests	330	ARG, BRA, CHI, HAI, PAR, PER, VEN
Typing of mycobacteria	560	ARG, BRA, BOL, MEX, PAN, PAR, PER, URU
Quality control of culture media	8	ARG, ECU, MEX
Control of biological potency of antituberculosis drugs	2	ARG

In its capacity as Reference Laboratory, the INPPAZ produces biologicals that are used as standards by the countries.

The following table shows the distribution by country of reference standards made available for the biological sensitivity tests of bovine and avian PPD, studies for the identification of mycobacteria, drug resistance, and diagnosis with the ELISA.

Summary of the Distribution of Reference Standards

REAGENT	DOSE/ UNITY	COUNTRIES
BOVINE AND AVIAN PPD (Dose)	330.000	ARG, ANT & BAR, BOL, BRA, CHI, COL, ELS, HON, JAM, PAN, PAR, PER, VEN
RT.23 HUMAN PPD (*)	EQ. 10.000.000	ARG, BRA, CHI, GUA, MEX, NIC, PER, DOR, VEN
STANDARD STRAINS	20	ARG, BOL, BRA, CHI, PAN, PAR, URU, VEN.
PURE STANDARD ANTITUBERCULOSIS DRUGS (X 100 MG)	500	ARG, CHI, MEX, PER.
ANTIGENS FOR ELISA (FLASKS)	4	ARG.

* *Obtained from the WHO, Global Tuberculosis Program (Serum Institute, Copenhagen).*

Cooperative studies are being carried out by the INPPAZ and national institutes for evaluating the diagnostic methods arising from recent technological advances and their application in the field for differentiating *M. bovis* and *M. tuberculosis* strains.

The following projects were carried out following those lines of research:

- The ADN "fingerprinting" technique was used with several institutions of Argentina in epidemiological studies of outbreaks of multidrug resistant tuberculosis. The results of these cooperative investigations have been published in scientific journals and presented at international meetings.

- Joint project, Alpha Program of the European Unit: European, Latin American and Caribbean Tuberculosis Network. Subject: Multidrug resistant tuberculosis. Coordinator: Dr.Carlos Martin, University of Zaragoza.

- Study of the virulence of multidrug resistant strains of *M. tuberculosis*. Coordinator; Dr. Dick Van Soolingen, RIVM. (The Netherlands).

- PCR-restriction enzyme pattern analysis for the rapid identification of mycobacteria. Collaborative project, Latin American and Caribbean Tuberculosis Network (RELACTB). Coordinator: Dr. Silvia Leao, Federal University of Sao Paulo.

- Inter-species transmission of *M. bovis* infection. Collaborative project with Dr. Marcela Martínez Vivor, Faculty of Veterinary Sciences, University of Buenos Aires and Dr. Pedro Torres, SENASA-Argentina.

3.2.3 Brucellosis

In compliance with Resolution 8 of RIMSA VIII /1993, the Meeting of the Working Group on the Prevention, Control and Eradication of Brucellosis in Latin America and the Caribbean was held at the INPPAZ from 14 through 16 November 1994. The purpose of the meeting was to obtain recommendations on the preparation, execution, and evaluation of national prevention and control programs and to propose the planning of a Regional Program for the Prevention, Control and Eradication of Brucellosis. The Institute carried out its technical cooperation activities within this frame of reference.

With the coordination of HCV, the INPPAZ participated in carrying out the joint OIRSA/PARSA/PAHO project for the control and eradication of brucellosis in the Central American countries. As part of the project, support was provided to the training of human resources in the diagnosis and epidemiological surveillance of brucellosis.

During the period 1997-1998 the INPPAZ gave priority to the quality assurance of diagnosis biologicals and to this end it distributed for reference purposes the standard antigens used for diagnosis.

Summary of the distribution of reference biologicals during the period

ANTIGEN	NUMBER OF FLASKS	COUNTRIES
Milk ring	62	CHI, JAM
Bang Plate	10	BOL, COL, DOR
Bengal Rose	61	ANT & BAR, BOL, COL, CHI, DOR, ECU, JAM

3.2.4 Other zoonoses

In response to the requests received from the countries during the period 1997-1998, the INPPAZ provided the technical cooperation required for the solution of problems related to various zoonoses.

The Institute cooperated with the Argentine Zoonosis Association in the preparation and development of the II Argentine Congress and I Latin American Congress on the Zoonoses.

Leptospirosis. The INPPAZ continued to provide lesptospire serovars to the national laboratories for their research activities and diagnosis. A total of 42 serovar kits were distributed to the following countries: Argentina, Colombia, Ecuador, Mexico, and Trinidad and Tobago.

Hydatidosis. Support was provided for the organization of Hydatidosis programs in the countries of the Southern Cone affected by the disease. The Uruguayan National Program for Hydatidosis Control was evaluated.

Training on the diagnosis of leptospirosis was provided to officials of Central America.

Support is being provided to the organization of the 1999 International Congress of Hydatidosis and a workshop on the strategies for the eradication of this disease is being prepared.

Bovine Spongiform Encephalopathy. A workshop-seminar was carried out for the MERCOSUR countries to review the strategies for the prevention of the disease, with emphasis on the organization of systems for the epidemiological surveillance of Bovine Spongiform Encephalopathies (BSE).

An International Seminar on Transmissible Spongiform Encephalopathies (CJD-BSE) was carried out jointly with WHO and with the participation of 86 officials from the following countries: Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico, Panama, Paraguay, Peru, Dominican Republic, and Uruguay.

Information on transmissible spongiform encephalopathies continued to be disseminated in view of the apparent association between the bovine spongiform encephalopathy (BSE) and the Creutzfeldt-Jacob Disease (CJD). The recommendations of the WHO Expert Committees on public health aspects related to these diseases were also included.

Trichinellosis: In 1997 a meeting on the updating of trichinellosis control was carried out jointly with the Faculty of Veterinary Sciences of the University of Buenos Aires and the SENASA of Argentina; it was attended by 70 professionals.

4. TECHNICAL COOPERATION PROGRAMMING

The Plan is based on the 1999-2002 Strategic and Programming Orientations for the Pan American Sanitary Bureau (PASB), and on PAHO's basic principles: **Equity and Pan-Americanism,** as well as on the recommendations of the Organization's Governing Bodies, including the Inter-American Meeting on Animal Health, at the Ministerial Level (RIMSA) and the Institute's Advisory Bodies: the International Coordination Council (ICC), the Scientific and Technical Committee (STC), and the Program Committee for Argentina.

The programming of the INPPAZ technical cooperation activities is included in the document entitled **Strategic Plan of Action of the Pan American Institute for Food Protection and Zoonoses (INPPAZ),** which defines its missions and functions, the assumptions of its technical cooperation and the objectives it should attain.

The Strategic Plan became a participatory activity involving the Institute's Director and the professional staff, the Head of HCP, the HCV Coordinator and the consultants of the Program in the countries.

Phase I comprised the analysis of the information on strategic matters related to the trends and development of food safety at the regional and world levels and the challenges arising from such information; the technical cooperation activities with the countries during the years of existence of the Institute; the evaluation of the 1991-1995 Regional Plan of Action for Technical Cooperation in Food Protection; the report of the External Evaluation Group of the Program on Veterinary Public Health; the reports of the Institute's International Coordination Council (ICC) and Scientific and Technical Committee (STC), and the participation in international and regional events.

Upon completion of this phase twelve strategic assumptions were drawn, which summarize the main challenges that the Institute will have to solve.

During Phase II a proposal on the strategic action plan was prepared; it includes the updating of the Institute's mission or purpose, the definition of the short, medium and long-term operational plan, and the identification of six strategic goals which should be under implementation by the beginning of the next millennium.

During Phase III the Scientific and Technical Committee (STC) was convoked for the purpose of examining and reviewing the Institute's proposed strategic plan of action.

4.1 Strategic Plan of Action

4.1.1 Revised text of the INPPAZ mission

"To provide the Member Governments of the Pan American Health Organization and their integration initiatives with technical cooperation for the solution of problems related to food safety and to the prevention and control of food-borne diseases in the population."

4.1.2 Functions

1. To promote the updating and adoption of legislation and regulations on food safety.

2. To train officials from the countries in the Region.

3. To provide international reference services for the detection of microbiological, chemical and natural contaminants.

4. To collect and disseminate epidemiological and technical information on food safety..

5. To coordinate applied research regarding food safety.

6. To provide direct technical advisory services for the organization of integrated food protection programs.

7. To promote technical cooperation among the countries.

4.1.3 Strategic assumptions

1. *Food safety is a central issue of crucial importance at the national, regional, and world levels because of its consequences for public health and international trade.*

2. *Problems in food safety have led to important advances in food inspection and control methods through the introduction of preventive measures that cover the food production chain and are based on the principle of hazard analysis.*

3. *The countries should update their food production programs in order to reduce the risks for the population and, in the case of those with food surpluses, to comply with the requirements of international trade.*

4. *From the standpoint of public health, greater attention will have to be given the small and medium-sized food industry, which normally produce a significant volume of food for domestic consumption.*

5. *Special private technical assistance mechanisms have been developed in response to the needs of the exporting and advanced industrial sectors, and several international technical cooperation agencies are collaborating in updating food inspection and control systems (World Trade Organization (WTO), FAO, PAHO, WHO, and IEO).*

6. *The significant advances in the communication technology currently available contribute to facilitating the implementation of training and social communication programs.*

7. *All the countries in the Region are at the stage of undertaking state reforms and reducing the services provided by the state, with a trend toward their privatization.*

8. *As a result of the technical cooperation provided by PAHO and other international organizations, the countries already have the basic infrastructure required for food production programs that can be used to improve food safety and strengthen technical cooperation among the countries.*

9. *Through the INPPAZ and the Program on Veterinary Public Health, PAHO has played a very important role in providing technical cooperation to the countries. However, its efforts have not yet achieved the scope required to satisfy the current and future technical cooperation needs of the countries as established in the above assumptions because of the uncertainty regarding the availability of resources.*

10. *The existing WHO Collaborating Centers and the national and international activities in food protection could be used to strengthen the technical cooperation provided to the countries through coordinated activities and alliances.*

11. *PAHO has a remarkable infrastructure in the region consisting of its PWRs, the Technical Programs, and the epidemiologists and consultants in the countries with which, and through adequate programming coordination, technical cooperation to the countries could be significantly increased.*

12. *The available information on food-borne disease cases shows that they occur most frequently in the homes; this calls for an extensive social communication and health education campaign.*

4.1.4 Short- and medium-term goals

1. To cooperate with the countries in the organization of local and national food protection programs, and in the establishment of mechanisms for the subregional and regional coordination and evaluation of the programs.

2. To cooperate with the countries in reviewing and strengthening the analytical systems for the detection and monitoring of microbiological and chemical contaminants.

3. To cooperate with the countries in reviewing and updating the systems for food inspection and quality and safety control.

4. To cooperate with the countries in the organization of national food-borne disease information and epidemiological surveillance systems.

5. To promote food protection through community involvement.

4.1.5 Long-term objectives and goals

1. The Institute will be recognized as the agency promoting and providing technical cooperation in the Region and as the main source of information on and training in sanitary food protection.

2. The Institute will have increased its technical cooperation potentiality on the basis of inter-programming coordination and through alliances with other international, bi-national, and national technical cooperation agencies, and will serve as a reference center for food safety.

3. The Institute will have increased its capacity for cooperating with the countries in the development of programs for social communication and health education to achieve the involvement of the community in food protection programs, mainly the food processors, food handlers and the consumers.

4. The Institute will have developed completely its infrastructure and human resources for the provision of technical cooperation to the counties in sanitary food protection.

5. The Institute will prepare and implement bi-national technical cooperation plans adjusted to the needs of the counties.

6. The Institute will have a stable financial situation and will be able to implement its programming on a continuous basis.

These goals define the new aspects, which should be emphasized by the Institute in order to solve the problems stated in the strategic assumptions,

The document dealing with the Strategic Plan is issued separately and includes the proposal on the revised mission of the Institute, twelve strategic assumptions, five short- and medium-term objectives, goals and strategies, and six long-term objectives, goals and strategies, in addition to a description of its organization and of the resources required for its implementation.

ANEXOS

Anex 1

TRAINING ACTIVITIES

I – FOOD PROTECTION

Activity	Place/Date	N° of partic.	Participating Countries
FAO/PAHO Workshop on the Harmonization of the Basic Food Law and Regulations	**Uruguay** 23/02/97 24/02/97	15	Argentina, Belize, Colombia, Cuba Dominican Rep., El Salvador, Guatemala, Guyana, Jamaica, Panama, Paraguay, Trinidad and Tobago, Uruguay
III Seminar on the Harmonization of Veterinary Drugs in Latin America	**Mexico** 07/04/97 11/04/97	75	Mexico, Argentina, Belgium, Bolivia, Brazil, Canada, Costa Rica, Chile, Colombia, Cuba, Dominican Rep., El Salvador, France, Germany, Honduras, Nicaragua, Panama, Paraguay, Peru, U.S.A., United Kingdom, Uruguay, Venezuela
Training course for the local system of ES-FBD, Department of Salto.	**Uruguay** 11/06/98 12/06/98	28	Uruguay
Seminar on Rapid Methods for Microbiological Food Analysis	**INPPAZ** 13/05/97	70	Argentina
Seminar-Workshop: Training and Health Education in Schools, Minister of Health and Social Welfare	**INPPAZ** 01/07/97 11/07/97	20	Argentina
Two workshops: Experiences in the Application of the HACCP System in the European Union	**INPPAZ** 03/07/97 04/07/97	76	Argentina
Course on the Hazard Analysis and Critical Control Point System – Reduction of pathogens – Auditing of Facilities	**INPPAZ** 14/07/97 18/07/97	45	Argentina
Course: Detection and Identification of *Campylobacter jejuni* in Food	**INPPAZ** 28/07/97 08/08/97	6	Argentina
Workshop: Implementation of the Food-borne Disease Epidemiological Surveillance and Control System	**Argentina** 04/08/97 05/08/97	20	Argentina
Course: Development and Application of HACCP Plans in the Meat Industry	**Argentina** 04/08/97 07/08/97	23	Argentina
Workshop: Integrated Care of Childhood Illnesses	**INPPAZ** 04/08/97 08/08/97	25	Argentina
Seminar for the Implementation of the Food-borne Disease Epidemiological Surveillance and Control System Health Sector	**Argentina** 07/08/97 08/08/97	37	Argentina
Seminar Workshop "Information System on Food Regulations" for the South American countries.	**BIREME** 13/08/97 15/08/97	20	Brazil, Argentina, Bolivia, Chile Colombia, Ecuador, Peru, Venezuela, Paraguay, Uruguay

Activity	Place/Date	N° of partic.	Participating Countries
Course: Detection and Identification of Emerging Microorganisms in Food *Campylobacter Jejuni* *Escherichia coli O157:H7* *Listeria monocytogenes* *Yersinia enterocolitica*	**INPPAZ** 19/08/97 29/08/97	12	Argentina, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Venezuela
Workshop on the HACCP system in an Updating Course on Meat Quality. Autonomous University of Mexico	**Mexico** 25/08/97 29/08/97	43	Mexico
Workshop: Harmonization of Techniques and Development of Quality Assurance and Control Procedures in Food Laboratories in Patagonia	**Argentina** 02/09/97 04/09/97	11	Argentina
Course on Laboratory Safety: Interpretation of Safety Regulations and Coding of Labels for Chemical Products	**Argentina** 22/10/97	17	Argentina
Regional Course: Training Trainers in the Hazard Analysis and Critical Control Point System in Fish Products. Seafood Alliance/INPPAZ PAHO/WHO	**USA** 27/10/97 31/10/97	90	Argentina, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua, Mexico, Panama, Peru, Uruguay, Guyana, Venezuela, USA.
Lecture: Rapid Methods for Food Microbiological Analysis	**INPPAZ** 14/11/97	150	Argentina
Seminar/Workshop on Food Quality Assurance Using the Hazard Analysis and Critical Control Point (HACCP) System	**El Salvador** 17/11/97 21/11/97	30	El Salvador
Workshop: "The Local FBD Epidemiological Surveillance System"	**Argentina** 28/11/97 29/11/97	25	Argentina
I Seminar-Workshop on Management in Epidemiology with Emphasis on Food	**INPPAZ** 09/03/98 13/03/98 11/05/98 15/05/98	38	Argentina
Seminar: Quality Assurance Regulations in Veterinary Diagnosis Laboratories	**Argentina** 06/04/98 08/04/98	15	Argentina
Training course for the local system of ES-FBD, Department of Rivera.	**Uruguay** 27/05/98 28/05/98	30	Uruguay
In-service Training in the Detection of Anabolic Agents in Food	**INPPAZ** 30/06/98 10/07/98	1	Chile
Course: the Hazard Analysis and Critical Control Point System	**Peru** 10/08/98 13/08/98	32	Peru
II Pan American Meeting of Fish Product Quality Inspection and Control National Services and Agencies	**INPPAZ** 07/09/98 11/09/98	58	Argentina, Bolivia, Brazil, Canada, Colombia, Costa Rica, Cuba, Chile, Dominican Rep., Ecuador, France, Guatemala, Honduras, Italy, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, United States, Venezuela

Activity	Place/Date	N° of partic.	Participating Countries
Course: Hazard Analysis and Critical Control Point system	**Argentina** 21/09/98 02/10/98	20	Argentina
Subregional Seminar-Workshop: National Programs on Food Protection, Legislation, and Regulations	**Guatemala** 30/09/98 02/10/98	30	Guatemala, Costa Rica, Haiti, Mexico, Nicaragua, Panama
Two Courses on "Application of the Hazard Analysis Critical Control Point (HACCP) system, Good Manufacturing Practices (GMP), Standard Operational Procedures (SOP), and Standard Sanitary Operational Procedure (SSOP). Porto Alegre	**Brazil** 03/11/98 07/11/98	54	Brazil
Three Seminars for the Training of Trainers in Good Manufacturing Practices and the Hazard Analysis Critical Control Point System. FAO/INPPAZ PAHO/WHO	**Argentina** 09/11/98 13/11/98	110	Argentina
Course on Quality Control Statistical Methods for Chemical Laboratories	**Chile** 30/11/98 04/12/98	20	Chile
Course: Epidemiological Surveillance, Investigation and Control of FBD Outbreaks	**Ecuador** 19/10/98 23/10/98	45	Ecuador
12 Seminar-workshops for the implementation of the National Argentine System of Food Regulations within the Quality in the Year 2000 project	**Argentina** 1997 - 1998	970	Argentina
Joint FAO/PAHO Workshop "The Role of Governments in the Evaluation of Food Quality and Safety in the Food Industry"	**Uruguay** 10/12/98	75	Uruguay

II - ZOONOSES

Activity	Place/Date	N° of Partic.	Participating Countries
Training in Rabies Diagnostic Techniques by Imunofluorescence	**INPPAZ** 07/04/97 11/04/97	3	Argentina
Training in Serological Techniques for the *in vitro* Detection of Rabies Antibodies	**INPPAZ** 01/02-97 28/02/97	1	Argentina
Training in *in vitro* Rabies Vaccines Quality Control Tests	**INPPAZ** 15/04/97 30/04/97	1	Argentina
Molecular Biology Methods Applied to *Mycobacteria*, Rapid Diagnostic Techniques	**INPPAZ** 1997	3	Argentina
Workshop: Rabies Diagnosis. Fluorescent Antibody Technique	**INPPAZ** 1997	3	Argentina
Workshop: Paratuberculosis - SENASA/INPPAZ	**INPPAZ** 30/04/97	15	Argentina

Activity	Place/Date	N° of partic.	Participating Countries
Course: The use of EpiInfo for processing epidemiological data in the national plan for the control and eradication of bovine tuberculosis in Argentina	**INPPAZ** 19/05/97 20/05/97	36	Argentina
Updating Symposium in Trichinellosis	**Argentina** 11/07/97	92	Argentina
National Meeting for the Control of Canine Rabies	**INPPAZ** 11/08/97 12/08/97	35	Argentina
Meeting/Agreement Cooperation in Health, Area: Rabies and Zoonoses	**Brazil** 28/08/97 29/08/97	25	Brasil Paraguay
Training in Rabies Diagnosis Techniques and Quality Control of Rabies Vaccines	**INPPAZ** 1998	1	Paraguay
Training on the Bacteriology of Tuberculosis. Rapid and Traditional Methods for Mycobacteria Identification	**INPPAZ** 1998	1	Panamá
Training in the Production of Bovine PPD and Biology Potency Assessment in Guinea-pigs	**INPPAZ** 1998	1	Paraguay
International Workshop: Surveillance of Transmissible Spongiform Encephalopathies (CJD, BSE)	**INPPAZ** 16/03/98 18/03/98	87	Argentina, Bolivia, Brazil, Canada, Chile, Colombia Costa Rica, Cuba, Ecuador Dominican Rep., Guatemala, Mexico, Panama, Paraguay, Peru, Switzerland, United Kingdom, United States, Uruguay
Course: Application of Molecular Biology Techniques in Rabies Epidemiological Surveillance	**INPPAZ** 17/08/98 28/08/98	7	Argentina Brazil

SUMMARY OF THE TRAINING ACTIVITIES

Activity	N° of Partic.
Training within the framework of the Food Protection Project	**2.336**
Training within the framework of the Zoonosis Project	**311**
Grand total	**2.647**

Annex 2

PARTICIPATION IN CONGRESSES, SEMINARS AND WORKSHOPS

I – FOOD PROTECTION

EVENT	DATE	PLACE
Codex Alimentarius "Regional Coordinating Committee for Latin America and the Caribbean" 10th session	25/02/97 28/02/97	Montevideo, URUGUAY
III Seminar on the Harmonization of Veterinary Drugs for Latin America	01/04/97 05/04/97	Cancun, MEXICO
Workshop: Hazard Analysis and Critical Control Point System for Officials of the Veterinary Public Health Program	27/04/97 30/04/97	Washington, DC U.S.A.
Course on Food Registration - INAL/INPPAZ	28/07/97 08/08/97	Buenos Aires, ARGENTINA
World Congress on Food Hygiene	24/08/97 29/08/97	The Hague The Netherlands
XI Regional Course for Tuberculosis Laboratories – INDRE	07/09/97 12/07/97	MEXICO
Seminar "Changes in the Community". Organized by the Division of Disease Prevention and Control. HCP/PAHO	17/09/97 18/09/97	Washington, DC USA.
Latin American and Caribbean Seminar on Food Science and Technology (VII Argentine Congress on Food Science and Technology), Argentine Association of Food Technologists	18/09/97 20/08/97	Costa Salguero, Buenos Aires ARGENTINA
Meeting "Navigating HACCP"	22/09/97 23/09/97	Washington, DC USSA.
Sub-regional Seminar on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization.. Organized by the Andean Community and the ICA	22/09/97 24/09/97	Bogotá, COLOMBIA
XVI Bi-national Meeting ARBOL II (Argentine-Bolivian Agreement)	09/10/97 11/10/97	Santa Cruz de la Sierra, BOLIVIA
III River Plate Symposium on Microbiology (organized by the Argentine and Uruguayan Microbiology Associations)	12/10/97 15/10/97	Buenos Aires, ARGENTINA
Meeting on the Medical Impact of the Use of Antimicrobial Drugs in Food of Animal Origin. WHO	13/10/97 17/10/97	Berlin, GERMANY
Seminar: Biosafety in Microbiology (SENASA)	20/10/97 22/10/97	GELAB/SENASA, ARGENTINA
Workshop: Rapid Methods for Food Microbiological Analysis	11/11/97 13/11/97	Santiago, CHILE
National Meetings of Heads of Epidemiological Services. Ministry of Health and Social Action	04/12/97 05/12/97	Buenos Aires, ARGENTINA
Workshop for the Establishment of the Inter-American Network of Food Analysis Laboratories	08/12/97 12/12/97	PAHO Washington, DC USA
First Conference on Pesticide Ecotoxicology and Environmental Safety for the MERCOSUR. I.SI - UBA. Faculty of Exact Sciences	09/12/97 11/12/97	Buenos Aires, ARGENTINA
International Symposium on Veterinary Public Health in Disaster Situations	18/03/98 20/03/98	Havana, CUBA
International Seminar on Animal Reproduction and Biotechnology	08/02/98 20/02/98	Belen, Brazil

EVENT	DATE	PLACE
Special Meeting of the Executive Committee of the Inter-American Network of Food Analytical Laboratories (INFAL)	09/11/98 12/11/98	Montevideo, Uruguay
II Meeting of the Executive Committee of the Pan American Network of Food Laboratories	30/03/98 02/04/98	Rio de Janeiro, BRAZIL
Lecture: Information Systems of Food Regulations. XXXII National Meeting of Librarians of Argentina.	14/04/98	Buenos Aires, Argentina
Lecture: Food Legislation of the European Union (ILSI Argentina)	06/04/98	Buenos Aires, ARGENTINA
Updating Seminar on the Codex Alimentarius and Food Regulations (Secretariat of Agriculture)	24/04/98 29/04/98	Buenos Aires, ARGENTINA
II Technical Working Group of WHO Collaborating Centers in Food Safety	04/05/98 05/05/98	University of California, Davis, USA
IV World Congress on "Food-borne Infections and Intoxications" – BGVV	08/06/98 14/06/98	Berlin, GERMANY
Molecular Diagnosis of Acute Diarrheal Diseases Caused by Vibrio and E. Coli (Instituto Malbrán, IILA, Siena University)	15/06/98 26/06/98	Buenos Aires, ARGENTINA
Seminary: Adequacy of Food Irradiation in the Area of Health (CNEA)	25/06/98 26/06/98	Buenos Aires, ARGENTINA
Meeting for the Definition of an Agenda for Health in a Global Economy	29/07/98 31/07/98	Montevideo, URUGUAY
VI Argentine Symposium on Plant Pharmacology	03/08/98 07/08/98	Posadas, Misiones, ARGENTINA
VI Meeting on the Food-borne Disease Surveillance System	10/08/98 12/08/98	Brasilia, BRAZIL
VIII Argentine Congress of Microbiology	06/09/98	School of Medicine, UBA, Buenos Aires, ARGENTINA
Round Table on BPM: A Path Towards Food Safety (A.A.T.A.)	19/09/98	Buenos Aires, ARGENTINA
I Symposium on Food Safety and Health (Health State Secretariat)	21/09/98 23/09/98	Sao Paulo, BRAZIL
IICA Seminar: Food Safety in the International Trade of Agricultural Products	29/09/98 30/09/98	Mexico, DF MEXICO
Workshop: Epidemiological Surveillance of Food-borne Diseases: Marine Fish Poisoning. Trelew	15/10/98 16/10/98	Rio Negro, ARGENTINA
Codex Alimentarius "Food Hygiene", 31st Session (CX 712-31)	26/10/98 30/10/98	Orlando, USA.
Course on the LILACS Methodology. National Health Sciences Information Network	12/11/98 13/11/98	Maimonides University, Buenos Aires, ARGENTINA
First NSF International Conference on Food Safety	16/11/98 18/11/98	New Mexico, USA
International Seminar on Food-borne Diseases (National Academy of Medicine)	20/11/98	Buenos Aires, ARGENTINA
Latin American Congress on Food Microbiology	23/11/98 26/11/98	Aguas do Lindaia, BRAZIL
National workshop for the planning and implementation of a Network of Food Analytical Laboratories.	26/11/ 98 27/11/98	Uruguay
Codex Alimentarius "Regional Coordinating Committee for Latin America and the Caribbean" 11th Session (CX 725-11)	08/12/98 11/12/98	Montevideo, URUGUAY

II - ZOONOSES

EVENT	DATE	PLACE
VI Meeting of Heads of National Rabies Control Programs	01/04/97 03/04/97	Quito, ECUADOR
XXV Symposium on Hydatidosis	24/04/97 26/04/97	Malargue, Mendoza ARGENTINA
Workshop: Human and Animal Infections Caused by Chlamydia, Borreliae, Brucellae and Mycobacteria	23/06/97 04/07/97	U.B.A., Facultad de Veterinaria, Buenos Aires, ARGENTINA
III River Plate Microbiology Symposium - "Prevalent and Emerging Zoonotic Diseases in the River Plate". INPPAZ item: "Regional Resource Coordination for Control and Surveillance "	13/10/97	Buenos Aires, ARGENTINA
Seminar-Workshop: Tuberculosis Control. Annual Meeting of the Confederal Council of Tuberculosis Control (Instituto Coni, ANLIS)	15/10/97 16/10/97	Santa Fe, ARGENTINA
XXV Meeting of the South American Commission for the Control of Foot-and-Mouth Disease	26/03/98 27/03/98	Mato Grosso de Sul, BRASIL
X National Congress of Veterinary Medicine. Seminary on Emerging Diseases, FBD and Zoonoses	31/03/98 03/04/98	Universidad Austral de Chile, Valdivia, CHILE
II Argentine Congress on the Zoonoses. I Argentine Congress on Emerging Diseases; I (Argentine Zoonosis Association))	14/04/98 17/04/98	Buenos Aires, ARGENTINA
National Meeting of State Zoonosis Coordinators	27/04/98 29/04/98	San Pablo, BRASIL
WHO Meeting on The Use of Quinolones in Animals	02/06/98 05/06/98	Ginebra, SUIZA
XVI Pan American Congress on Veterinary Sciences (COMVETBOL - PANVET)	09/11/98 13/11/98	Santa Cruz, BOLIVIA

ANNEX 3

PERIODIC PUBLICATIONS, DOCUMENTS, PRESENTATIONS IN CONGRESSES AND TECHNICAL SCIENTIFIC LITERATURE

Food protection

1) Congress/Conference

Estupiñán, J., et al. **PAHO/WHO Technical Cooperation for Food Safety Programs in Countries of Latinoamerica and the Caribbean.** In: NSF Meeting. International Conference on Food Safety. Nov. 1998.

Estupiñan, J., et al. **Vigilancia de las Enfermedades Transmitidas por los Alimentos en Latinoamérica y el Caribe.** In: Memorias del Congreso Latinoamericano de Microbiología de Alimentos. 1998.

Final Report. Meeting of the Executive Committee of the Inter-American Network of Food Analytical Laboratories (INFAL). Rio de Janeiro, Brazil, 30 March-2 April 1998.

Informe de la Reunión para elaborar un Plan de Trabajo Conjunto para la entrega de Cooperación Técnica en Protección de Alimentos en Centroamérica. Guatemala. 1997.

Informe Final del III Curso Internacional sobre Análisis Microbiológico del Vibrio Cholerae en los Alimentos. Instituto Panamericano de Protección de Alimentos y Zoonosis (INPPAZ). Buenos Aires, Argentina. 1997.

Informe Final. III Seminario sobre la Armonización de los Medicamentos Veterinarios en Latinoamérica. Cancún, Mexico, 7-11 April 1997.

Pan American Institute for Food Protection and Zoonoses. **Regional Information System for the Epidemiological Surveillance of Food-borne Diseases in the Countries of Latin America and the Caribbean. In: Proceedings of the World Congress on Food Hygiene, The Hague, The Netherlands, pp 150.** 1998.

Belotto, A.J. – **Trade of Animals and Animal Products – The Concept of Food Safety from Farm to Table: International Seminar on Animal Reproduction and Biotechnology – Swedish International Development Cooperation Agency (SIDA), Brazilian National Council for Science and Technology (CNP) and Para Federal University (UFDP) – Belem, Brazil, 8-20 February, 1998.**

Belotto, A.J. – **Globalización Económica, Comercio de Alimentos y Salud – Reunión : Hacia la Definición de una Agenda para la Salud en los Procesos de Globalización Económica. OPS/OMS, Montevideo Uruguay, 29 - 31 July 1998.**

Torroba, J. **Garantía de la calidad en laboratorios: conceptos generales. In: Reunión para el establecimiento de la Red Interamericana de Laboratorios de Análisis de Alimentos. Washington, DC, 8-12 December 1997.**

Torroba, J. **Redes de laboratorios: antecedentes en la Región. In: Taller Nacional para la Planificación e Implementación de una Red de Laboratorios de Análisis de Alimentos. Montevideo, 27 November 1998.**

Estupiñán, J. D´Agostino, M. **Sistema de información Regional de la OPS-OMS sobre Normativas Alimentarias. Taller conjunto FAO/OPS Pre Codex Workshop. Armonización de la Ley Básica de Alimentos y reglamentaciones en Latinoamérica y el caribe. Montevideo, Uruguay, 23 - 24 February 1997**.

2) Technical Documents

Folleto Presentación del Instituto Panamericano de Protección de Alimentos y Zoonosis. (Spanish). 1998.

Folder describing the Pan American Institute for Food Protection and Zoonoses. (English). 1998.

Food-borne disease outbreaks and cases reported in 1996 to the Regional Information System for the Epidemiological Surveillance of Food-borne Diseases (RISES-FBD). (RIMSA 10/INF/24). 1997.

Pan American Institute of Food Protection and Zoonoses. **Hazard Analysis and Critical Control Point (HACCP) System for Food Safety. Brief Guidelines**. 1998.

Instituto Panamericano de Protección de Alimentos y Zoonosis. **Informe Final de la Consulta Técnica Conjunta FAO/OIEA/OPS/OMS sobre el uso de la Irradiación como Medida de Intervención de Salud Pública para el Control de las Enfermedades Transmitidas por Alimentos en Latinoamérica y el Caribe. Washington, D.C.**

Instituto Panamericano de Protección de Alimentos y Zoonosis. **La aplicación del Sistema de Análisis de Riesgos y Puntos Críticos de Control (HACCP) para la Protección de los Alimentos. Guía abreviada.** 1998.

Instituto Panamericano de Protección de Alimentos y Zoonosis. **Misión, funciones, campo de acción, objetivos y metas del Instituto Panamericano de Protección de Alimentos y Zoonosis (INPPAZ). Plan estratégico.** 1998.

Vergara, O. **Manual de Buenas Prácticas para la Preparación de Alimentos en Servicios Hospitalarios. Martinez, Argentina. INPPAZ OPS-OMS, 2nd edition.** 1998

3) Translations

Instituto Panamericano de Protección de Alimentos y Zoonosis. **Directrices para la evaluación reglamentaria del HACCP. Informe de una Consulta Conjunta FAO/OMS**

sobre la Función de los Organismos Oficiales en la evaluación del HACCP. Ginebra, 2 al 6 de junio de 1998. (Translation into Spanish of the original English text).

Instituto Panamericano de Protección de Alimentos y Zoonosis. **Guía para fotalecer un Programa Nacional de Protección de Alimentos.** 1997. **(WHO/FNU/FOS/96.2)** (Translation into Spanish of the original English text).

Instituto Panamericano de Protección de Alimentos y Zoonosis. **HACCP. Introducción al análisis de peligros y el sistema de puntos críticos de control**. 1997. **(WHO/FNU/FOS/97.2** (Translation into Spanish of the original English text).

Montajemi, Y., Küferstein, f., Moy, G., Miyagishima, K., Miyagawa, S., Reilly, A.**Tecnología de alimentos y salud pública.** (Translation into Spanish of the original English text, 1998).

4) Scientific Papers

Improper use of ß-agonists as growth promoters in animal production and potentially harmful effects on human health. Newsletter. 1997.

Kors, N., Gandía, S., Napolitani, C., Torroba, J. **Plomo en conservas de alimentos en envases metálicos. En: Boletín para Profesionales ANMAT, Vol. V(4):49-64, August 1997.**

Morán, N. **La participación de los mataderos en actividades de notificación de enfermedades, dentro del sistema de vigilancia epidemiológica. 1997.**

5) Periodic Publications

INPPAZ en las Américas (Spanish version) N°5, 1997; N°6, 1998.

INPPAZ in the Americas (English version). N°5, 1997; N°6, 1998.

ZOONOSES

1) Congress/Conference

Martínez Vivot, M., Saez, G., Reniero, A., Torres, P., Insúa, A., Ritacco, V. **Epidemiología molecular de la transmisión del Mycobacterium bovis de los bovinos a los cerdos en Buenos Aires. VIII Congreso Latinoamericano de Veterinarios Especialistas en Cerdos y V Congreso Nacional de Producción Porcina. Río Cuarto. October 1997.**

Memorias del Simposio sobre Epidemiología de las Zoonosis Parasitarias Transmitidas por Alimentos X Congreso Latinoamericano de Parasitología. I Congreso Uruguayo de Parasitología. Montevideo, Uruguay.

Togneri, A., Poggio, G., Reniero, A., Insúa, A., Dinerstein, E., Kantor, I.N. de, Ritacco, V.**Propagación pluricéntrica de una cepa de mycobacterium tuberculosis multirresistente asociada al SIDA. I Congreso Internacional de Infectología y Microbiología Clínica (SADI-SADEBAC). Buenos Aires, June 1997.**

Togneri, A., Poggio, G., Reniero, A., Insúa, A., Guerra, R., Dinerstein, E., Kantor, I., Ritacco, V. **AIDS-related multidrug-resistant tuberculosis (MDR-TUB) "M" strain spreads within two hospitals in Buenos Aires suburbs. International Union Against tuberculosis and Lung Disease (IUATLD) Annual Meeting, Paris, October 1997.**

2) Technical Documents

Instituto Panamericano de Protección de Alimentos y Zoonosis. **Guía para Proyectos de Tuberculosis Bovina. Nota Técnica N°15/Rev.2. Normas para la preparación de planes para programas de erradicación de la tuberculosis bovina y principios y criterios para la realización y evaluación de programas de erradicación de tuberculosis bovina. 1997.**

Pan American Institute for Food Protection and Zoonoses. **Guide for Bovine Tuberculosis Projects. Technical Note N°15/Rev.2. Guidelines for the preparation of plans for programs of bovine tuberculosis eradication and principles and technical criteria for the conduct and evaluation of bovine tuberculosis eradication programs.** 1997.

3) Translations

Kantor, I.N. de. **Gerencia de la red de laboratorios en los programas de control de tuberculosis. Guía para la Realización de un Taller Regional**. 1997 (Translation into Spanish of the original English text).

4) Scientific Papers

Díaz, A.M., Papo, S., Rodríguez, A., Smith, J.S. **Antigenic analysis of Rabies Virus isolates from Latin America and the Caribbean. 1997.**

Kantor, I.N. de, Laszlo, A. **Diagnostic methods for developing countries. Mycobacteria, Basic Aspects. Vol.1. Editors Gangadharam, R.; Jenkins, P.** 1997.

Kantor, I.N. de, Ritacco, V. **Bovine tuberculosis in Latin America and the Caribbean: Current Status, control and eradication programs. *Veterinary Microbiology* 1997.**

Kantor, I.N. de, Ritacco, V. **El diagnóstico de la Tuberculosis: del Examen Microscópico a la Biología Molecular.**

Ritacco, V., Kremer, K., van der Laan, T., Pijnenburg, J., de Hass, P., van Soolingen, D.**Use of IS*901* and IS*1245* in RFLP typing of *Micobacterium avium* complex: relatedness among serovar reference strains, human and animal isolates .** Int. J. Tuberc. Lung Dis. 2:242-251, 1998

Ritacco, v., López, B., Barrera, L., Morgante, P., Kantor, I.N. **M.pheli fails to absorb human IgG cross reacting with M.paratuberculosis.** ***The Paratuberculosis Newsletter.*** 1997.

Ritacco, V., Reniero, A. **Aplicación de las técnicasde ADN a la epidemiología de la tuberculosis.** En: Tuberculosis multi-resistente, L.J. González Montaner, J., Palmero, D.J., eds. Laboratorio Hoechst Marion Roussel, Argentina, 1998. Pp.109-127.

Van Soolingern, D., Bauer, J., Ritacco, V., Cardoso Leao, S., Pavli, I., Vincent, V., Rastogi, N., Gori, A., Bodmer, T., Gaarzelli, C., García, M.J. **IS*1245* restriction fragment length polymorphism typing of *Mycobacterium avium* isolates: proposal for standardization.** J. Clin. Microbiol., 36:3051-3054, 1998.

5) Periodic Publications

Epidemiological Surveillance of Rabies in the Americas 1996. Vol. XXVIII, 1997.

Epidemiological Surveillance of Rabies in the Americas 1997. Vol. XXIX, 1998.

Vigilancia Epidemiológica de la Rabia en las Américas 1996. Vol. XXVIII, 1997.

Vigilancia Epidemiológica de la Rabia en las Américas 1997. Vol. XXIX, 1998.

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