

## THE ATTACHED DOCUMENT

### I. COOPERATION BETWEEN BOTH GOVERNMENTS

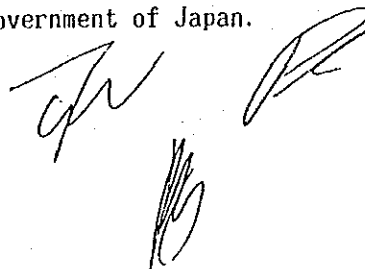
1. The Government of Japan and the Government of the Republic of Argentina will cooperate with each other in implementing the Research Project at the Faculty of Veterinary Science, the National University of La Plata (hereinafter referred to as "the Project") for the purpose of strengthening research activities in the field of animal health in order to contribute to the development of livestock industry in the Republic of Argentina.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

### II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide, at its own expense, services of the Japanese experts as listed in ANNEX II through the normal procedures under the Technical Cooperation Scheme of the Government of Japan.
2. The Japanese experts referred to in 1. above and their families will be granted in the Republic of Argentina the privileges, exemptions and benefits no less favorable than those accorded to experts of third countries or of international organizations performing similar missions in the Republic of Argentina, according to the provisions of article 6 of the Agreement.

### III. PROVISION OF EQUIPMENT

1. In accordance with laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide, at its own expense, such equipment, machinery and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in ANNEX III through the normal procedures under the Technical Cooperation Scheme of the Government of Japan.



2. The Equipment will become the property of the Government of the Republic of Argentina upon being delivered c.i.f. to the Argentine authorities concerned at the ports and/or airports of disembarkation according to the provisions of clause 1, article 7 of the Agreement, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

#### IV. PROVISION OF SPECIAL MEASURES

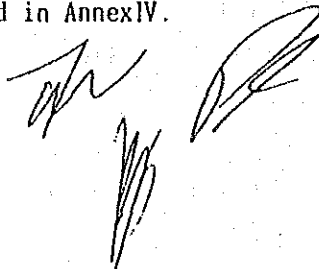
For the smooth implementation of the Project, the Government of Japan in accordance with laws and regulations in force in Japan, will take necessary measures through JICA to supplement a portion of the local expenditures for the Project such as that for the construction of the laboratory animal facility.

#### V. TRAINING OF ARGENTINE PERSONNEL IN JAPAN

1. In accordance with laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive, at its own expense, the Argentine personnel connected with the Project for technical training in Japan through the normal procedures under the Technical Cooperation Scheme of the Government of Japan.
2. The Government of the Republic of Argentina will take necessary measures to ensure that the knowledge and experience acquired by the Argentine personnel from technical training in Japan will be utilized effectively for the implementation of the Project.

#### VI. SERVICES OF ARGENTINE COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. In accordance with laws and regulations in force in the Republic of Argentina and with the provisions of article 5 (e) and (f) of the Agreement, the Government of the Republic of Argentina will take necessary measures to secure, at its own expense, the necessary services of Argentine counterpart and administrative personnel as listed in Annex IV.

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2. As to the Argentine counterpart personnel, the Government of the Republic of Argentina will allocate the necessary number of suitably qualified personnel, corresponding to each Japanese expert to be dispatched by the Government of Japan as listed in ANNEX II, for the effective and successful transfer of technology through the Project.

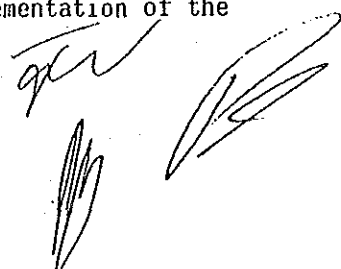
#### VII. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF ARGENTINA

1. In accordance with laws and regulations in force in the Republic of Argentina and with the provisions of the Agreement referred to in the bracket below, the Government of Argentina will take necessary measures to provide at its own expense:

- (1) Land, buildings and facilities as listed in ANNEX V [ article 5 (a) and (b) of the Agreement ] ;
- (2) Supply or replacement of equipment, machinery, vehicles, instruments, tools, spare parts and any other materials necessary for the implementation of the project other than those provided through JICA under III above;
- (3) Transportation facilities and travel allowances for the official travel of the Japanese experts within the Republic of Argentina [ article 5 (d) of the Agreement ] ;
- (4) Suitably furnished accommodations for the Japanese experts and their families [ article 5 (c) of the Agreement ] .

2. In accordance with laws and regulations in force in the Republic of Argentina and with the provisions of the Agreement referred to in the bracket below, the Government of the Republic of Argentina will take necessary measures to meet:

- (1) Expenses necessary for the transportation of the Equipment within the Republic of Argentina as well as for the installation, operation and maintenance thereof [ clause 2, article 7 of the Agreement ] ;
- (2) Customs duties, internal taxes and any other charges imposed on the Equipment in the Republic of Argentina [ clause 3, article 7 of the Agreement ] ;
- (3) All running expenses necessary for the implementation of the Project.

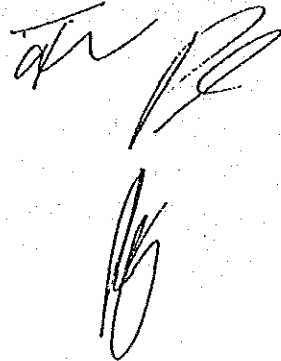
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#### VIII. ADMINISTRATION OF THE PROJECT

1. The President of the National University of La Plata will bear overall responsibility for the implementation of the Project.
2. The Dean of the Faculty of Veterinary Science, the National University of La Plata, as the Project Manager, will be responsible for the administrative and managerial matters of the Project.
3. The Japanese Team Leader will provide necessary recommendation and advice on technical and administrative matters concerning the implementation of the Project to the Project Manager.
4. The Japanese experts will give necessary technical guidance and advice to the Argentine counterpart personnel on matters pertaining to the implementation of the Project.
5. For the effective and successful implementation of the Project, a Joint Committee will be established with the functions and composition as referred to in ANNEX VI.

#### IX. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Republic of Argentina undertakes to bear claims, if any arises, against the Japanese experts assigned to the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Argentina except for those arising from the wilful misconduct or gross negligence of the Japanese experts according to the provisions of article 8 of the Agreement.



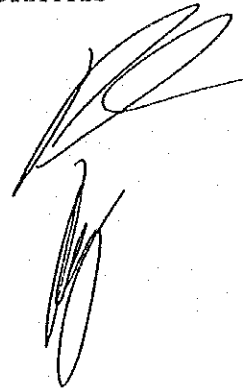
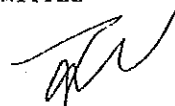
X. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with, this Attached Document.

XI. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be five (5) years from March 1, 1989.

|           |  |
|-----------|--|
| ANNEX I   | MASTER PLAN                            |
| ANNEX II  | JAPANESE EXPERTS                       |
| ANNEX III | LIST OF EQUIPMENT                      |
| ANNEX IV  | LIST OF ARGENTINE STAFF                |
| ANNEX V   | LIST OF LAND, BUILDINGS AND FACILITIES |
| ANNEX VI  | JOINT COMMITTEE                        |



## ANNEX I. MASTER PLAN

### 1. Objective of the Project

The objective of the Project is to strengthen the research activities at the Faculty of Veterinary Science, the National University of La Plata, in order to contribute to the development of livestock industry, one of the key industries in the Republic of Argentina.

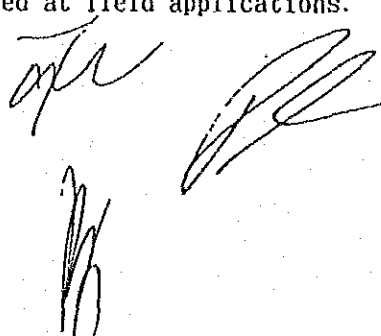
### 2. Objective of the Japanese Technical Cooperation

The objective of the Japanese technical cooperation is to assist in the cultivation of researchers through the cooperation activities of veterinary research in the field of epizootiology and public health at the Faculty of Veterinary Science, the National University of La Plata.

### 3. Cooperation Activities of the Japanese Technical Cooperation

The following cooperation activities will be implemented, under the general theme "Pathological and immunological approach to diagnosis of bacterial, mycotic, protozoal and viral infections in domestic animals", in order to attain the objective referred to in 2. above:

- (1) Basic research activities on patho-morphological studies;
- (2) Basic research activities on morphological and physiological studies using laboratory animals;
- (3) Patho-physiological and patho-biochemical research activities on evaluation of infected animals;
- (4) Comprehensive research activities aimed at field applications.



#### 4. Project sites

The project will be implemented at the following sites:

- (1) Faculty of Veterinary Science, the National University of La Plata;
- (2) Centre of Diagnostic Investigation of Veterinary (CEDIVE);
- (3) Santa Catalina Experimental Farm.

#### ANNEX II. JAPANESE EXPERTS

1. Team Leader
2. Coordinator
3. Experts in the field of:

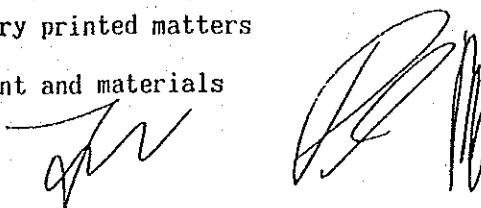
- (1) Patho-morphology
- (2) Laboratory animal science
- (3) Physiology, pharmacology and biochemistry
- (4) Microbiology

Note 1) Team Leader may serve concurrently as an expert in one of the fields mentioned above.

2) Short-term experts in the fields mentioned above and in other fields will be dispatched when the necessity arises.

#### ANNEX III. LIST OF EQUIPMENT

1. Equipment, machinery, instruments, tools, spare parts and other materials for the activities mentioned in ANNEX I
2. Vehicles
3. Books and other necessary printed matters
4. Other necessary equipment and materials



#### ANNEX IV LIST OF ARGENTINE STAFF

1. Project Manager
3. Coordinator
4. Counterpart personnel to the Japanese experts
5. Laboratory and technical assistants
5. Clerical and service staff
6. Field staff

#### ANNEX V. LIST OF LAND, BUILDINGS AND FACILITIES

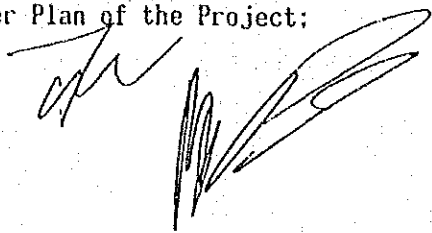
1. Main Building (administration offices, conference rooms, Japanese expert rooms, etc.) at the Faculty of Veterinary Science, the National University of La Plata
2. Laboratories at the Faculty of Veterinary Science, the National University of La Plata
3. Experimental and testing fields
4. Garages and other necessary facilities

#### ANNEX VI. JOINT COMMITTEE

1. Functions

The Joint Committee will meet at least once a year and whenever the necessity arises, and work:

- (1) To review the overall progress of the Tentative Schedule of Implementation in line with the Master Plan of the Project;

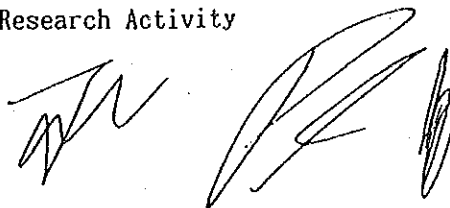




- (2) To review the following measures taken by the Government of Japan:
  - 1) Dispatch of the Japanese experts;
  - 2) Acceptance of the Argentine counterpart personnel for training in Japan;
  - 3) Provision of the Equipment.
- (3) To review the following measures taken by the Government of the Republic of Argentina:
  - 1) Allocation of necessary budget;
  - 2) Allocation of necessary counterpart personnel;
  - 3) Utilization of the equipment provided by the Government of Japan.
- (4) To formulate the Annual Work Plan of the Project; and
- (5) To recommend to both Governments the following matters:
  - 1) Budgetary matters;
  - 2) Recruitment and assignment of the Argentine counterpart personnel;
  - 3) Selection and effective utilization of equipment and machinery;
  - 4) Appropriate dispatch of the Japanese experts;
  - 5) Acceptance of Argentine counterpart personnel for training in Japan;
  - 6) Other matters which the Joint Committee will deem appropriate.

## 2. Composition

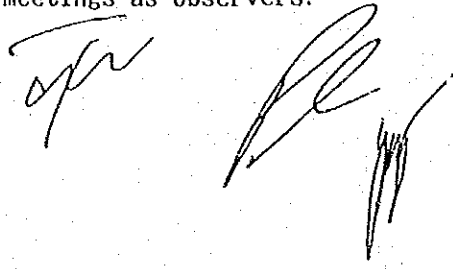
- (1) Chairman: President, the National University of La Plata
- (2) Argentine side:
  - 1) Dean of the Faculty of Veterinary Science
  - 2) Project Coordinator
  - 3) Representatives of each Research Activity
  - 4) Director, CEDIVE



(3) Japanese side:

- 1) Team Leader
- 2) Project Coordinator
- 3) Experts assigned to the Project
- 4) Resident Representative of JICA in Argentina
- 5) Other concerned personnel to be dispatched by JICA, if necessary

Note: Officials of the Embassy of Japan, officials of the Ministry of Agriculture, Livestock and Fisheries and officials of the Ministry of Education and Justice may attend the Joint Committee meetings as observers.

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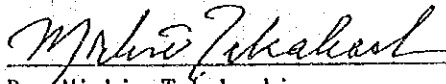
3. 暫定実施計画

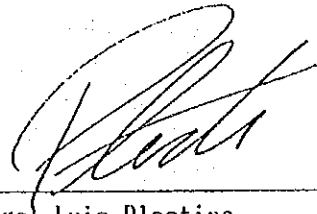
TENTATIVE SCHEDULE OF IMPLEMENTATION  
ON THE TECHNICAL COOPERATION FOR THE RESEARCH PROJECT  
AT THE FACULTY OF VETERINARY SCIENCE,  
THE NATIONAL UNIVERSITY OF LA PLATA

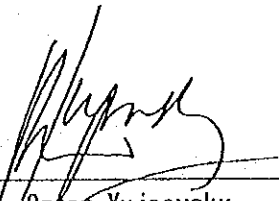
The Japanese Implementation Survey Team and the Argentine authorities concerned have jointly formulated the Tentative Schedule of Implementation of the Project as annexed hereto.

These have been formulated in connection with the Attached Document of the Record of Discussions signed between the Japanese Implementation Survey Team and the Argentine authorities concerned for the Project, on the condition that necessary budget will be allocated for the implementation of the Project and are subject to change within the framework of the Record of Discussions when necessity arises in the course of the implementation of the Project

La Plata, December 15, 1988

  
Dr. Michio Takahashi  
Leader,  
Japanese Implementation  
Survey Team,  
Japan International Cooperation  
Agency, JAPAN

  
Dr. Angel Luis Plastino  
President,  
National University of La Plata,  
Republic of Argentina

  
Emb. Oscar Yujnovsky  
Undersecretary,  
Undersecretary of International  
Cooperation  
Ministry of Foreign Affairs  
Republic of Argentina

TENTATIVE SCHEDULE OF IMPLEMENTATION

I. Annual Program

| Item   | Year | 1 st | 2 nd | 3 rd | 4 th | 5 th |
|--|------|------|------|------|------|------|
| 1. Basic research activities on patho-morphological studies                                      |      |      |      |      |      |      |
| (1) Research of anaerobic bacterial diseases   |      |      |      |      |      |      |
| (2) Research of toxoplasmosis  |      |      |      |      |      |      |
| (3) Research of viral diseases   |      |      |      |      |      |      |
| (4) Pathological and histopathological studies of infections diseases                            |      |      |      |      |      |      |
| 2. Basic research activities on morphological & physiological studies using laboratory animals   |      |      |      |      |      |      |
| 3. Patho-physiological & patho-biochemical research activities on evaluation of infected animals |      |      |      |      |      |      |
| 4. Comprehensive research activities aimed at field applications                                 |      |      |      |      |      |      |

Note: detail research topics under the Article 2, 3 and 4 shall be formulated annually at the Joint Committee after considering the progress of the Project.

II. Technical Cooperation Program

| Item   | Year | 1 st                      | 2 nd | 3 rd | 4 th | 5 th |
|--|------|---------------------------|------|------|------|------|
| 1. Japanese side:                                    |      |                           |      |      |      |      |
| (1) Long-term experts                                |      |                           |      |      |      |      |
| a. Team Leader                                       |      |                           |      |      |      |      |
| b. Coordinator                                       |      |                           |      |      |      |      |
| c. Experts in the field of:                          |      |                           |      |      |      |      |
| · Patho-morphology                                   |      | ( two or three persons )  |      |      |      |      |
| · Laboratory animal science                          |      |                           |      |      |      |      |
| · Physiology, pharmacology<br>and biochemistry       |      |                           |      |      |      |      |
| · Microbiology                                       |      |                           |      |      |      |      |
| (2) Short-term experts                               |      | ( when necessity arises ) |      |      |      |      |
| (3) Counterparts training in<br>Japan                |      |                           |      |      |      |      |
| (4) Provision of equipment                           |      |                           |      |      |      |      |
| (5) Dispatch of survey missions                      |      | ( when necessity arises ) |      |      |      |      |
| 2. Argentine side:                                   |      |                           |      |      |      |      |
| (1) Counterpart personnel to<br>the Japanese experts |      |                           |      |      |      |      |
| (2) Provision of running cost<br>of the Project      |      |                           |      |      |      |      |
| (3) Provision of land, buildings<br>and facilities   |      |                           |      |      |      |      |

## ANNEX 2

## JOINT EVALUATION SCHEDULE

| Date                           | Time        | Schedule  |
|--------------------------------|-------------|---|
| Aug. 11 (Wed)                  | 17:30       | Meeting with Argentine Evaluation Team  |
| Aug. 12 (Thu)<br>Aug. 13 (Fri) |             | Participating in the Seminar  |
| Aug. 14 (Sat)                  | 8:30        | Visiting CEDIVE   |
| Aug. 16 (Mon)                  | 8:30~12:00  | Presentation of performance of the Project by C/P and Japanese experts                        |
|                                | 15:30~17:00 | Viewing relevant facilities   |
| Aug. 17 (Tue)                  | 9:00~12:00  | Interviewing with C/P and Japanese experts  |
|                                | 14:00~17:00 | Joint Evaluation Meeting<br>( Preparing the Evaluation Report )                               |
| Aug. 18 (Wed)                  | 14:00~17:00 | Joint Evaluation Meeting<br>( Discussions of the draft report )                               |
| Aug. 19 (Thu)                  | 9:00~15:00  | Joint Evaluation Meeting<br>( Finalizing the Evaluation Report )                              |
|                                | 16:00       | Joint Evaluation Meeting<br>( Signing of the Evaluation Report )                              |
| Aug. 20 (Fri)                  | 16:00       | Joint Committee Meeting<br>( Submission of the Evaluation Report,<br>Signing of the Minutes ) |

## Dispatch of Japanese Experts

| FIELD                    | EXPERT       | 1989 |   |   | 1990 |   |   | 1991 |   |   | 1992 |    |    | 1993 |   |   | 1994 |   |                 | NAME OF EMPLOYERS | MAN MONTH |       |   |
|--------------------------|--------------|------|---|---|------|---|---|------|---|---|------|----|----|------|---|---|------|---|-----------------|-------------------|-----------|-------|---|
|                          |              | 1    | 2 | 3 | 4    | 5 | 6 | 7    | 8 | 9 | 10   | 11 | 12 | 1    | 2 | 3 | 4    | 5 | 6               |                   |           | 7     | 8 |
| LABORATORY<br>ENTRALS    | S. SUGANO    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1         |       |   |
|                          | K. MOTSUMOTO |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKUSHIMA    | 2.6       |       |   |
|                          | H. IKADA     |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | IPAHICHI INST.    | 42        |       |   |
|                          | E. SUZUKI    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | KIH               | 2.7       |       |   |
|                          | K. MOTSUMOTO |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKUSHIMA    | 1.3       |       |   |
| SUB-TOTAL                | 5            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   | 19.6      |       |   |
| PARASITOLOGY             | I. IGARASHI  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 24        |       |   |
|                          | N. SUZUKI    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 0.6       |       |   |
|                          | Y. OMAI      |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 0.5       |       |   |
|                          | A. SAIJO     |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 13        |       |   |
|                          | K. ONO       |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 1         |       |   |
|                          | I. IGARASHI  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. OBIHIRO      | 0.7       |       |   |
| SUB-TOTAL                | 7            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   | 40.8      |       |   |
| PHYSIOLOGY               | Y. HAYASHI   |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1         |       |   |
|                          | K. DOI       |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 2         |       |   |
|                          | S. IIZUKA    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 15.5      |       |   |
|                          | S. YATEYAMA  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. HIYAZAKI     | 1         |       |   |
|                          | H. YAKIYAMA  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 2.3       |       |   |
|                          | Y. YABAGUCHI |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. HIYAZAKI     | 1         |       |   |
|                          | T. YANAI     |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. EIJU         | 1         |       |   |
|                          | S. IIZUKA    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1.4       |       |   |
| SUB-TOTAL                | 8            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   | 25.2      |       |   |
| MICROBIOLOGY             | K. KOSHIMIZU |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1         |       |   |
|                          | H. SATO      |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 24        |       |   |
|                          | A. HASEGAWA  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1         |       |   |
|                          | K. ITO       |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1.5       |       |   |
|                          | T. OYA       |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | KIAH              | 2         |       |   |
|                          | S. YAMAMOTO  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | IPHE (HIYAZAKI)   | 12        |       |   |
|                          | T. MITUOKA   |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   | KIPON V.S. UNI. | 0.2               |           |       |   |
| SUB-TOTAL                | 7            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   | 41.7      |       |   |
| VIROLOGY                 | E. TAKAHASHI |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 3         |       |   |
|                          | T. KUMAMOTO  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | JR2               | 2         |       |   |
|                          | Y. TOYA      |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 12        |       |   |
|                          | J. NORIMINE  |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 25        |       |   |
|                          | Y. TOYA      |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1.4       |       |   |
| SUB-TOTAL                | 5            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   | 41.4      |       |   |
| GENETICS<br>BIOCHEMISTRY | K. SHIOTA    |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 1         |       |   |
|                          |              |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           |       |   |
| SUB-TOTAL                | 1            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 1     |   |
| E. MICROSCOPE            | J. KONGI     |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | JEOL              | 0.8       |       |   |
|                          |              |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 0.8   |   |
| SUB-TOTAL                | 2            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 1.6   |   |
| LEADER                   | E. TAKAHASHI |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | UNI. TOKYO        | 8         |       |   |
| SUB-TOTAL                | 1            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 8     |   |
| COORDINATOR              | Y. NOSUCHI   |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | JICA              | 3         |       |   |
|                          | S. KIBE      |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 | JICA              | 28        |       |   |
| SUB-TOTAL                | 2            |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 31    |   |
| GRAND TOTAL              | 37           |      |   |   |      |   |   |      |   |   |      |    |    |      |   |   |      |   |                 |                   |           | 237.5 |   |

Annex 4 Training of Argentine Personnel in Japan

| Discipline    | Name                           | Duration      |
|---------------|--------------------------------|---------------|
| Laboratory    | Dr. Miguel Angel AYALA         | '91.3-'92.3   |
| Animals:      | Dr. Daniel Horacio MORALEJO    | '92.6-'93.5   |
| Parasitology: | Dra. Cecilia Maria VENTURINI   | '90.3-'91.3   |
|               | Dra. Cecilia L. Di LORENZO     | '91.1-'91.12  |
| Pathology:    | Dr. Miguel Angel PETRUCELLI    | '89.4-'89.12  |
|               | Dra. Maria Alejandra QUIROGA   | '90.5-'91.5   |
|               | Dr. Jose Ignacio AGUIRRE       | '91.4-'92.7   |
|               | Dr. Alberto Domingo ARMOCIDA   | '92.6-'93.5   |
|               | Dra. Susana Beatriz JURADO     | '92.6-'93.5   |
|               | Dr. Roberto E. SANGUINETTI     | '93.7-'94.4   |
| Microbiology: | Dra. Gabriela Isabel GIACOBONI | '89.4-'90.3   |
|               | Dra. Marisa Andrea AMOR        | '90.5-'91.5   |
|               | Dr. Julio Alberto COPES        | '91.8-'92.8   |
|               | Dr. Raul Oscar CERDA           | '92.1-'92.12  |
| Virology:     | Dr. Edgardo Omar NOSETTO       | '89.4-'90.3   |
|               | Dr. Armando M. DAMIANI         | '93.7-'94.4   |
| Genetics:     | Dr. Guillermo GIOVAMBATTITA    | '91.3-'92.3   |
|               | Dra. Maria Pia HERAS           | '92.6-'93.5   |
| Physiology:   | Dr. Carlos Eduardo RAMIREZ     | '91.7-'92.7   |
| Biochemistry: | Dr. Alejandro PALACIOS         | '91.7-'92.7   |
| CEDIVE:       | Dr. Gabriel TRAVERIA           | '92.6-'93.6   |
| Study tour:   | Dr. Horacio N. Garcia VALENTI  | '88.7.24-8.7  |
|               | Dr. Alberto Ricardo DIBBERN    | '90.4.21-5.14 |
|               | Dra. Maria E. ETCHEVERRIGARAY  | '93.4.15-6.11 |
|               | Dra. Alicia Graciela ANTONINI  | '93.4.15-6.11 |
|               | Dra. Cecilia CARBONE           | '93.4.15-6.11 |
|               | Dr. Luis Julian Lima           | '93.10        |
| Ph.D          | Dr. Gustavo Oscar ZUCCOLILLI   | '90.10-       |
| Scholarship   | Dr. Marcelo Ricardo PECORARO   | '91.10-       |
| Students:     | Dr. Eduardo Carlos MORTOLA     | '93.4-        |



## Annex 5- (1)

Provision of Equipment by JICA

(Unit: Thousand yen)

|                        | 1988   | 1989   | 1990   | 1991   | 1992   | 1993<br>(Estimate) | TOTAL   |
|------------------------|--------|--------|--------|--------|--------|--------------------|---------|
| Laboratory<br>Animals  | 0      | 0      | 25,910 | 7,060  | 6,000  | 7,500              | 46,470  |
| Parasitology           | 3,370  | 120    | 3,820  | 4,400  | 3,380  | 2,400              | 17,490  |
| Pathology              | 0      | 0      | 4,910  | 4,000  | 3,170  | 2,400              | 14,480  |
| Microbiology           | 0      | 25,930 | 7,080  | 3,050  | 3,030  | 2,400              | 41,490  |
| Viology                | 0      | 0      | 7,990  | 3,630  | 3,820  | 2,400              | 17,840  |
| Genetics               | 0      | 0      | 4,500  | 4,460  | 4,330  | 1,500              | 14,790  |
| Physiology             | 0      | 0      | 0      | 2,740  | 2,030  | 2,400              | 7,170   |
| Biochemistry           | 0      | 0      | 0      | 2,980  | 1,620  | 3,000              | 7,600   |
| CEDIVE                 | 0      | 0      | 0      | 0      | 5,590  | 6,000              | 11,590  |
| Common Use             | 11,800 | 0      | 0      | 13,900 | 8,410  | 0                  | 34,110  |
| Electron<br>Microscope | 0      | 50,630 | 0      | 0      | 0      | 0                  | 50,630  |
| TOTAL                  | 15,170 | 76,680 | 54,210 | 46,220 | 41,380 | 30,000             | 263,660 |

## Annex 5-- (2)

Provision of Equipment by JICA  
(Main Equipment)

| No | Fiscal Year | Equipment   | Utilization | Maintenance |
|----|-------------|---|-------------|-------------|
| 1  | 1988        | Vehicle (Minibus TRAFIC TA-52)  | Good        | Good        |
| 2  | 1988        | Biological Microscope (Nikon XB-11)   | Good        | Good        |
| 3  | 1989        | Electron Microscope (JME-1200EX II)   | Good        | Good        |
| 4  | 1989        | Electron Microscope Cooling System (EM-RWC 10A)   | Good        | Good        |
| 5  | 1989        | Carbon Coating Apparatus (JEE-4X)   | Good        | Good        |
| 6  | 1989        | Ultra-Microtome (Reichert Jung SUPER NOVA)  | Good        | Good        |
| 7  | 1989        | Dark Room Instruments   | Good        | Good        |
| 8  | 1989        | High Speed Refrigerative Centrifuge (Kubota-6800)   | Good        | Good        |
| 9  | 1990        | Autoclave (Hogner 992-E-VL)   | Good        | Good        |
| 10 | 1990        | Air-conditioner System for SPF Animal Facility  | Good        | Good        |
| 11 | 1990        | Incident-light Fluorescence Microscope and Accessories<br>(Olympus DIS-313, BHZ-RFL-2, PM-10-35ADS-2) | Good        | Good        |
| 12 | 1991        | Gas Chromatography (Shimazu GC-14APsF)  | Good        | Good        |
| 13 | 1991        | Atomic Absorption Spectrophotometer (GBC-902BC)   | Good        | Good        |
| 14 | 1991        | Cryomicrotome (Minton 2491)   | Good        | Good        |
| 15 | 1991        | CO <sub>2</sub> Incubator (Jujikagaku BL-160)   | Good        | Good        |
| 16 | 1991        | DNA Thermal Cycler (Packin Elmer Cetus PJ-2000)   | Good        | Good        |
| 17 | 1991        | Deep Freezer (FORMA 8438)   | Good        | Good        |
| 18 | 1991        | Bio Freezer (Nippon Freezer BF-310)   | Good        | Good        |
| 19 | 1992        | Liquid Scintillation Counter (Packard Inst. C-1900TR)   | Good        | Good        |
| 20 | 1992        | Vehicle (Isuzu 4WD Trooper Wagon)   | Good        | Good        |
| 21 | 1992        | Microtome Super Cut (Reichert Jung 2055)  | Good        | Good        |
|    |             |   |             |             |
|    |             |   |             |             |

## Annex 6

Local Running Costs by JICA

(Unit: Thousand yen)

|                            | 1989  | 1990   | 1991  | 1993  | TOTAL  |
|----------------------------|-------|--------|-------|-------|--------|
| EMERGENCY EXPENSE BUDGET   | 4,137 |        |       |       | 4,137  |
| MODEL INFRASTRUCTURE FUNDS |       | 26,559 |       |       | 26,559 |
| SEMINAR HOLDING FUNDS      |       |        | 1,469 | 2,800 | 4,269  |
| TOTAL                      | 4,137 | 26,559 | 1,469 | 2,800 | 34,965 |

### Annex 7-(1) Argentine Staff Allocation

| No  | Name of Counterpart              | Profession          | Status    | C/P training in Japan                |
|---|----------------------------------|---------------------|-----------|--------------------------------------|
| <b>PARASITOLOGY</b>                           |                                  |                     |           |                                      |
| 1   | Dra. Lucila M. Venturini         | Professor           | Full time |                                      |
| 2   | Dra. Maria Cecilia Venturini     | Assistant Professor | Full time | C/P ('90.03.05-'91.03.04)            |
| 3   | Dra. Cecilia Laura Di Lorenzo    | Assistant Professor | Full time | C/P ('91.01.13-12.20)                |
| 4   | Dra. Maria Laura Vignau          | Research Associate  | Full time |                                      |
| <b>VIROLOGY</b>                               |                                  |                     |           |                                      |
| 5   | Dra. Maria Elisa Etcheverrigaray | Professor           | Full time | C/P ('93.04.15-06.11)                |
| 6   | Dra. Graciela Araceli Oliva      | Associate Professor | Full time |                                      |
| 7   | Dr. Edgardo Omar Nosetto         | Associate Professor | Full time | C/P ('89.04.10-'90.03.08)            |
| 8   | Dra. Celina Buscaglia            | Associate Professor | Full time |                                      |
| 9   | Dra. Ester Teresa Gonzalez       | Associate Professor | Part time |                                      |
| 10  | Dra. Maria Gabriela Echeverria   | Assistant Professor | Full time |                                      |
| 11  | Dra. Cecilia Monica Galosi       | Assistant Professor | Full time |                                      |
| 12  | Dra. Viviana Cid de La Paz       | Research Associate  | Part time |                                      |
| 13  | Dr. Marcelo Ricardo Pecoraro     | Assistant Professor | Full time | Ph.D. Scholar of Monbusho ('91.10- ) |
| 14  | Dr. Armando Damiani              | Fellow from CONICET | Full time | C/P ('93.07.19-'94.04.12)            |
| <b>PATHOLOGY</b>                              |                                  |                     |           |                                      |
| 15  | Dr. Eduardo Juan Gimeno          | Professor           | Full time |                                      |
| 16  | Dr. Enrique Leo Portiansky       | Associate Professor | Full time |                                      |
| 17  | Dr. José Ignacio Aguirre         | Assistant Professor | Full time | C/P ('91.07.29-'92.07.22)            |
| 18  | Dra. Andrea Carreras             | Research Associate  | Full time |                                      |
| <b>ANATOMICAL AND PHYSIOLOGICAL PATHOLOGY</b> |                                  |                     |           |                                      |
| 19  | Dr. Julio Roberto Idiart         | Professor           | Full time |                                      |
| 20  | Dr. Carlos Juan Perfumo          | Associate Professor | Full time |                                      |
| 21  | Dr. Jorge Runger                 | Associate Professor | Part time |                                      |
| 22  | Dra. Adriana Raquel Massone      | Assistant Professor | Part time |                                      |
| 23  | Dr. Enrique Felix Costa          | Assistant Professor | (CEDIVE)  |                                      |
| 24  | Dra. Maria Alejandra Quiroga     | Assistant Professor | Full time | C/P ('90.05.08-'91.05.08)            |
| 25  | Dr. Gustavo Oscar Zuccolilli     | Assistant Professor | Full time | Ph.D. Scholar of Monbusho ('91.10- ) |
| 26  | Dr. Alberto Armocida             | Assistant Professor | Part time | C/P ('92.06.03-'93.05.08)            |
| 27  | Dr. Roberto Sanguinetti          | Assistant Professor | Full time | C/P ('93.07.19-'94.04.12)            |
| 28  | Dra. Susana Jurado               | Assistant Professor | Full time | C/P ('92.06.03-'93.05.26)            |
| 29  | Dr. Eduardo Carlos Mortola       | Assistant Professor | Full time | Ph.D. Scholar of Monbusho ('93.4- )  |
| <b>AVIAN PATHOLOGY</b>                        |                                  |                     |           |                                      |
| 30  | Dr. Miguel Angel Petrucelli      | Associate Professor | Full time | C/P ('89.04.10-'89.12.21)            |
| <b>MICROBIOLOGY</b>                           |                                  |                     |           |                                      |
| 31  | Dr. Néstor Stanchi               | Associate Professor | Part time |                                      |
| 32  | Dra. Gabriela Isabel Giacoboni   | Research Associate  | Full time | C/P ('89.05.30-'90.03.08)            |
| 33  | Dr. Raúl Oscar Cerdá             | Research Associate  | Full time | C/P ('92.01.26-'92.12.22)            |
| 34  | Dr. Julio Alberto Copes          | Research Associate  | Full time | C/P ('91.08.26-'92.08.19)            |
| 35  | Dra. Marisa Andrea Amor          | Research Associate  | Full time | C/P ('90.05.08-'91.05.08)            |
| 36  | Dra. Fabiana Alicia Moredo       | Research Associate  | Full time |                                      |
| <b>GENETICS</b>                               |                                  |                     |           |                                      |
| 37  | Ing. Fernando Noel Dulout        | Professor           | Full time |                                      |
| 38  | Dra. Alejandra Ulrich            | Associate Professor | Full time |                                      |

CONICET: National Council of Scientific and Technical Research  
 CIC: Scientific Research Commission of the Buenos Aires Province  
 CEDIVE: Center of Diagnosis and Research in Veterinary Science

Continue Annex 7-(1)

| No                               | Name of Counterpart                 | Profession                   | Status    | C/P training in Japan     |
|----------------------------------|-------------------------------------|------------------------------|-----------|---------------------------|
| <b>Continue GENETICS</b>         |                                     |                              |           |                           |
| 39                               | Dr. Carlos Daniel Golijow           | Fellow from CIC              | Full time | C/P ('93.04.15-'93.06.11) |
| 40                               | Dra. María Atilia Gomez             | Fellow from CIC              | Full time |                           |
| 41                               | Dra. Analia Isabel Seoane           | Fellow from CIC              | Full time |                           |
| 42                               | Dra. María Mercedes Lojo            | Associate Professor          | Part time |                           |
| 43                               | Dra. Alicia Graciela Antonini       | Assistant Professor          | Full time |                           |
| 44                               | Dra. Pilar Peral García             | Assistant Professor          | Full time |                           |
| 45                               | Dra. María Cecilia Gortari          | Research Associate           | Part time |                           |
| 46                               | Dra. Silvana Nora Milocco           | Research Associate           | Full time |                           |
| 47                               | Dra. María Pía Heras                | Assistant Professor          | Full time |                           |
| 48                               | Dra. Claudia Alejandra Grillo       | Fellow from CIC <sup>1</sup> | Full time |                           |
| 49                               | Dra. María Laura Ciarmela           | Fellow from CONICET          | Full time | C/P ('92.06.03-'93.05.26) |
| 50                               | Dr. Guillermo Giovambattista        | Fellow from CIC              | Full time |                           |
| 51                               | Dra. María Cristina Terreros        | Fellow from CONICET          | Full time | C/P ('91.03.31-'92.03.28) |
| 52                               | Dr. Julio Cesar De Luca             | Assistant Professor          | Full time |                           |
| <b>BIOCHEMISTRY</b>              |                                     |                              |           |                           |
| 53                               | Dr. Angel Catalá                    | Professor                    | Full time | C/P ('91.07.29-'92.07.22) |
| 54                               | Dra. Rosana Zanelli                 | Assistant Professor          | Full time |                           |
| 55                               | Dr. Alejandro Palacios              | Research Associate           | Full time |                           |
| 56                               | Dra. Viviana Angélica Piergiacomini | Fellow of UNLP               | Full time |                           |
| <b>PHYSIOLOGY</b>                |                                     |                              |           |                           |
| 57                               | Dr. Eduardo Mariano Zaccardi        | Professor                    | Full time |                           |
| 58                               | Dr. Javier Hugo Barragan            | Assistant Professor          | Part time |                           |
| 59                               | Dr. Maximo Babusci                  | Assistant Professor          | Part time |                           |
| 60                               | Dra. Claudia Marcela Tittarelli     | Research Associate           | Full time |                           |
| 61                               | Dr. Carlos Eduardo Ramirez          | Assistant Professor          | Full time |                           |
| <b>LABORATORY ANIMAL SCIENCE</b> |                                     |                              |           |                           |
| 62                               | Dra. Cecilia Carbone                | Associate Professor          | Full time | C/P ('92.06.03-'93.05.26) |
| 63                               | Dr. Daniel Horacio Moralejo         | Research Associate           | Full time |                           |
| 64                               | Dra. María del Pilar Lilia Cagliada | Research Associate           | Part time | C/P ('91.03.25-'92.03.22) |
| 65                               | Dr. Miguel Angel Ayala              | Research Associate           | Full time |                           |
| <b>CEDIVE</b>                    |                                     |                              |           |                           |
| 66                               | Dr. Jorge Roberto Romero            | Associate Professor          | Full time | C/P ('92.06.14-'93.06.13) |
| 67                               | Dra. María T. Aristizabal           | Assistant Professor          | Full time |                           |
| 68                               | Dr. Enrique Félix Costa             | Assistant Professor          | Full time |                           |
| 69                               | Dr. Alejandro Rafael Valera         | Assistant Professor          | Full time |                           |
| 70                               | Dra. Lucía Argenio                  | Assistant Professor          | Full time |                           |
| 71                               | Dr. Gabriel Travería                | Assistant Professor          | Full time |                           |
| 72                               | Dr. Guillermo A. Matioli            | Research Associate           | Full time |                           |

CONICET: National Council of Scientific and Technical Research

CIC: Scientific Research Commission of the Buenos Aires Province

CEDIVE: Center of Diagnosis and Research in Veterinary Science

UNLP: University of La Plata

Annex 7 - (2)

Argentine Staff Allocation  
(Full-time Staff)

(UP TO THE END OF JUNE 1993)

|      | IN THE FACULTY | IN THE PROJECT |
|------|----------------|----------------|
| 1989 | 53             | 32             |
| 1990 | 60             | 36             |
| 1991 | 62             | 46             |
| 1992 | 76             | 51             |
| 1993 | 80             | 54             |

## Annex 8

Operating Costs Charged by Argentine Side  
(Wages not Included)

(UP TO THE END OF JUNE 1993)

(Unit:US\$)

| OBJECT                           | Year | 1989                   | 1990                   | 1991                    | 1992             | 1993                    | TOTAL             |
|----------------------------------|------|------------------------|------------------------|-------------------------|------------------|-------------------------|-------------------|
| Capital equipment                |      | 0                      | 7,088.97               | <sup>1)</sup> 21,036.84 | 14,000.00        | <sup>2)</sup> 28,000.00 |                   |
| Materials, maintenance & repairs |      | <sup>3)</sup> 4,173.18 | <sup>4)</sup> 2,515.82 | 6,655.06                | 10,284.99        | 5,588.18                |                   |
| Supplies & other materials       |      | 1,318.31               | 1,043.45               | 2,759.27                | 1,791.26         | 717.47                  |                   |
| Travel & transport               |      | 0                      | 852.55                 | 5,848.15                | 2,841.60         | 945.00                  |                   |
| Customs clearance                |      | 0                      | 672.30                 | 4,609.14                | 6,580.00         | 2,844.35                |                   |
| Communication & utilities        |      | -                      | 4,816.16               | 33,034.90               | 25,590.47        | 5,578.13                |                   |
| Rental                           |      | 1,388.91               | 700.65                 | 4,807.40                | 580.00           | 450.00                  |                   |
| Insurance                        |      | 0                      | 993.10                 | 6,790.24                | 1,931.10         | 2,590.60                |                   |
| <b>TOTAL</b>                     |      | <b>6,880.48</b>        | <b>18,683.00</b>       | <b>85,541.00</b>        | <b>63,599.42</b> | <b>46,713.73</b>        | <b>221,417.63</b> |

1) Included for setting of air-conditioner at the room of Electron Microscope.

2) Included for purchase of stand-by Electric Generator.

3) Included for establishment of Parasitology Laboratory.

4) Included for remodelling "Pabellon Nocard".

## Annex 9 - (1)

External Income Acquired by Each Laboratory  
(Research Funds)

(UP TO THE END OF JUNE 1993)

(Unit:US\$)

| Laboratory   | Year | 1989  | 1990  | 1991  | 1992  | 1993  |
|--------------|------|-------|-------|-------|-------|-------|
| Genetics     |      | 0     | 5,000 | 5,700 | 9,600 | 0     |
| Virology     |      | 2,000 | 2,000 | 0     | 7,000 | 0     |
| Pathology    |      | 4,000 | 0     | 0     | 0     | 0     |
| Biochemistry |      | 1,000 | 2,700 | 1,500 | 3,000 | 5,000 |



Annex 9-(2)

External Income Acquired by Each Laboratory  
(Supplemental Personnel Expenses)

(UP TO THE END OF JULY 1993)

|                    | CONICET | C I C | TOTAL |
|--------------------|---------|-------|-------|
| Laboratory Animals | 0       | 0     | 0     |
| Parasitology       | 0       | 0     | 0     |
| Pathology          | 2       | 0     | 2     |
| Microbiology       | 0       | 0     | 0     |
| Viology            | 2       | 2     | 4     |
| Genetics           | 7       | 3     | 10    |
| Physiology         | 0       | 0     | 0     |
| Biochemistry       | 1       | 0     | 1     |
| CEDIVE             | 0       | 0     | 0     |
| TOTAL              | 12      | 5     | 17    |

CONICET : NATIONAL COUNCIL OF SCIENTIFIC AND TECHNICAL RESEARCHES

CIC : SCIENTIFIC RESEARCHES COMMISSION OF THE BUENOS AIRES PROVINCE

External Income Acquired by Each Laboratory  
(Diagnostic Services)

(UP TO THE END OF JUNE 1993)

( Unit:US\$ )

| Laboratory         | Year | 1989   | 1990   | 1991   | 1992   | 1993   |
|--------------------|------|--------|--------|--------|--------|--------|
| Laboratory Animals |      | 0      | 0      | 0      | 561    | 2,042  |
| Parasitology       |      | 297    | 947    | 647    | 1,357  | 494    |
| Pathology          |      | 600    | 550    | 2,600  | 3,000  | 5,805  |
| Microbiology       |      | 0      | 0      | 0      | 0      | 0      |
| Virology           |      | 2,280  | 4,794  | 5,734  | 25,433 | 20,470 |
| Physiology         |      | 0      | 0      | 0      | 0      | 165    |
| Biochemistry       |      | 0      | 0      | 0      | 0      | 0      |
| CEDIVE             |      | 20,538 | 26,429 | 35,871 | 58,000 | 13,609 |

Annex 10

Progress Reports of Research Activities  
Prepared by Each Laboratory

DEPARTMENT OF MICROBIOLOGY  
*Faculty of Veterinary Sciences*  
National University of La Plata

SUMMING-UP OF ACTIVITIES 1989-1993

**Responsible:**

*M. E. Etcheverrigaray*

**Staff:**

*G. Giacoboni, J. Copes, R. Cerdá, M. Amor, F. Moredo, F. Pautozzi*

**Experts from Japan:** 4 (1 - 2 months), 2 (1 - 2 years)

**Fellowships in Japan:** 4 (one year)

**Amounts of grants received from JICA:** Approximately \$ 410,000.-

**New techniques developed during the five years:** 1) Hybridization using DNA byotinitated probes, 2) Polymerase chain reaction (PCR) for Mycoplasmas, 3) Metabolic and growth inhibition tests for Mycoplasmas, 4) Protein electrophoresis (SDS-PAGE), 5) Indirect hemoagglutination (I-HA) test for Haemophilus pleuroneumoniae, 6) Latex Agglutination test (LA) for Haemophilus pleuroneumoniae, 7) Several diagnostic techniques.

**New laboratories:** The microbiology laboratory was created during this project

**Impact of new techniques and equipment in external services and post-graduate education:** The new techniques introduced in this laboratory gave us the possibility to study more effectively and deeply some bacterias, such as Mycoplasma, Haemophilus, Campylobacter and other. We also got a better understandings of the diseases produced by these bacterias, from the epidemiological points of view. The experiences obtained for the members of this laboratory are being transferred in the grade courses of this Faculty of Veterinary Sciences and are employed in diagnosis and research.

**Remarkable facts of the group:** The members of this group are young researchers initiated during this project.

**Future projects:** To organize a bacteriological diagnostic service and post-grade courses.

## CATHEDRA: PARASITOLOGY AND PARASITARIAN DISEASES

HEAD PROFESSOR: Dra Lucila M. Venturini

ASISSTANT PROFESSOR: Med.Vet. M.Guardis, Med.Vet.G.De Carolis, Dra. M.L.Vignau,  
Dr. J.Romero, Med.Vet. J.L.Borén

ASISSTANT DIPLOMATE Dr. G.Denegri, Med.Vet R.Caro, Med.Vet J.M.Unzaga

LABORATORY OF IMMUNOPARASITOLOGY: Bact. C.Di Lorenzo, Dra. C.Venturini

## RESEARCH ACTIVITIES

Research on toxoplasmosis and babesiosis was continued during this period.

Toxoplasmosis: A serological survey on sheep was performed. The study about the effect of micotoxins in chronic toxoplasmosis and the serological and parasitological survey on cats were continued.

The following techniques were applied: Immunoblotting, tissue culture for antigen production, culture of lymphocytes and macrophages, parasite detection and immunofluorescence for anti-toxoplasma antibodies. Laboratory strains (Beverley and RH) and field isolates (from cats and pigs) were maintained. Fab anti cat IgG, was isolated and purified, the same fragment was conjugated with peroxidasa.

Bovine babesiosis: Studies on reactivity of antibodies from bovine sera to *Babesia* were continued

Immunofluorescence and immunoblotting techniques were used.

*Babesia rodhaini* strain was maintained by serial passages in mice.

## SERVICES

Serological diagnosis of toxoplasmosis realized:

Toxoplasmosis: humans: IFAT anti-IgG and anti-IgM

pigs: IFAT anti IgG and Agglutination test

cats: IFAT anti IgG

## PAPERS PRESENTED IN SCIENTIFIC MEETINGS

- *Toxoplasma gondii*: relación entre la serología y el período de eliminación de ooquistes en el gato.

L.Venturini, M.C.Venturini, C.Di Lorenzo, Y.Omata, G. De Carolis

VIII Annual Meeting of AAVDL, Nov. 5-6, 1992 Corrientes.

II Meeting of Teachers and Researchers. FCV-UNLP. March 30, 1993. La Plata, Argentina

- *Toxoplasma gondii*: diagnóstico serológico y aislamiento en cerdos de consumo.

Y.Omata, C.Di Lorenzo, J.Borén, L.Venturini

VIII Ann. Meet. of AAVDL, Nov. 5-6, 1992, Corrientes.

II Meeting of Teachers and Researchers. FCV-UNLP. March 30, 1993. La Plata, Argentina

- Estudio histológico e inmunohistoquímico en cerebros de ratones infectados con *Toxoplasma gondii* e inmunodeprimidos con micotoxinas.

Quiroga M.A., Venturini M.C.

VIII Ann. Meet. of AAVDL, Nov. 5-6, 1992, Corrientes.

II Meeting of Teachers and Researchers. FCV-UNLP. March 30, 1993. La Plata, Argentina

- *Toxoplasma gondii*: reconocimiento de fracciones antigénicas por Immunoblotting con sueros de cerdos infectados naturalmente.

Y.Omata, C.Di Lorenzo, M.C.Venturini, L.Venturini.

VIII Ann. Meet. of AAVLD. Nov. 5-6, 1992, Corrientes.

II Meeting of Teachers and Researchers. FCV-UNLP. March 30, 1993. La Plata, Argentina

- Estudio histológico, ultraestructural e inmunohistoquímico en cerebros de ratones infectados con *Toxoplasma gondii* e inmunodeprimidos con micotoxinas.  
Quiroga M.A., Venturini M.C., Idiart J.R.,  
VI Encontro Nacional de Patología Veterinaria. July 28 - 30, 1993. Santa Maria. Rio Grande do Sul, Brasil.

#### PUBLISHED PAPERS

- Anticuerpos anti *Toxoplasma gondii* en cabras.  
L. Venturini, Y. Omata, M.L. Vignau, M.C. Venturini, D. Bedotti.  
1993 Rev. Med. Vet. (Bs.As) 74, 1, 16-18
- *Toxoplasma gondii*: diagnóstico serológico y aislamiento en cerdos de consumo.  
Y. Omata, C. Di Lorenzo, J. Borén, L. Venturini.  
1993 Vet. Arg., 10, 91, 12-15
- Effects of reactive oxygen intermediate scavengers on antitoxoplasmic activity of activated macrophages.  
Saito A., Igarashi I., Miyahara K., Venturini M.C., Claveria F., Hirose T., Suzuki N. and Ono K.  
Parasitol. Res. 78, 28-31, 1992.

#### UNPUBLISHED PAPERS

- Isolation and identification of mite parasite antigens in mouse infected with *Babesia rodhaini*  
Di Lorenzo C., Igarashi I., Maki Y., Kato S., Saito A., and Suzuki N.
- Effect of mycotoxin T2 and aflatoxin B1 as immunosuppressors in mice chronically infected with *Toxoplasma gondii*.  
Venturini M.C., Quiroga M.A., Risso M., Di Lorenzo C.L., Omata Y., Venturini L.
- Comparative study by immunoblotting of virulent and attenuated strain of *Babesia bovis* and *Babesia bigemina*.  
Y. Omata, C. Di Lorenzo, I. Echaide, M.C. Venturini, A. Guglielmo and L. Venturini.
- Evaluation of Immunoblotting Assay as confirmatory test for toxoplasmosis in naturally infected pigs.  
Y. Omata, C. Di Lorenzo, M.C. Venturini and L. Venturini.
- Effect of obiopeptide-1 (OBI-1) on the number and phagocytic activity of mouse adherent spleen cells.  
M.C. Venturini, Y. Omata, F. Claveria, T. Takehara, A. Saito and N. Suzuki.
- Immunity to *Babesia* sp. infection  
I. Igarashi, S. Waki, Y. Omata, A. Saito and N. Suzuki.

#### COURSES AND LECTURES

- "Immunodiagnosis Applied to the Small Animals Clinic". C. Venturini, C. Di Lorenzo.  
Lecturers: E. Pennimpede, C. Castellanos, L. Venturini  
Laboratory of Immunoparasitology.  
Nov. 11-13, 1992. F.C.V.-U.N.L.P.

- "Human and animal Toxoplasmosis "  
C. Di Lorenzo, C. Venturini, L. Venturini  
Lecturer: H. Pizzi  
Laboratory of Immunoparasitology.  
Nov. 30- Dec.4, 1992. F.C.V-U.N.L.P.
  
- "Epidemiology, diagnosis and prevention of animal toxoplasmosis"  
L. Venturini.  
Nov. 6-7, 1992.  
I Jornadas Provinciales de Zoonosis, Santa Fe. Pcia de Santa Fe.
  
- "Immune response in Toxoplasmosis and Babesiosis"  
C. Venturini, C. Di Lorenzo.  
Oct. 30, 1992.  
Faculty of Medicine . National University of Córdoba.

## SUMMING-UP OF ACTIVITIES 1989-1992

### IMPACT OF 5 YEARS OF ARGENTINE-JAPANESE COOPERATION IN THE AREA OF PATHOLOGY.

#### Responsible:

E.J.Gimeno, J.R. Idiart, C.J.Perfumo, M.A.Petruccelli

#### Staff:

J.I.Aguirre, A.D.Armocida, F.P.Marino, A.R.Massone, P.Nervi, S.D.Pérez Escalá, E.L.Portiansky, M.A.Quiroga, J.Ruager

Experts from Japan: 6 (for a few weeks), 1 (for a year).

Fellowships in Japan: 5 (for variable periods)

Amount of grants received from JICA: Approximately \$660,000.

The Institute of Pathology was funded in 1964, and it is a part of the Department for Clinical Sciences. The first Director, Prof. Dr. Bernardo Epstein, took the legacy of more than 80 years of tradition in Pathology and built up the Institute. The general situation at the University hindered the appropriate growth of the Pathology Area during many years. In the 80s, a sustain improving was evident in the level of both research and teaching. A new era began in 1989, with the advent of the Argentine-Japanese Cooperation Project.

Research activities have been increased during the last years. Thanks to the support given by JICA and the University of Tokyo, our laboratories have introduced modern techniques in Immunohistochemistry, Lectin-histochemistry, and Electron Microscopy applied to research and routine work. All the staff members have been engaged in research plans related to the Cooperative Project. Besides, our laboratories have been cooperating actively with other Departments in the frame of the Project (CEDIVE, Protozoology, Virology and Microbiology). The main lines of research are dealing with pathogenesis and epidemiology of infectious diseases, mycotoxins and immunity, and tumoral pathology.



Teaching activities include the heavy task of conduct the graduate courses of General Pathology, Special Pathology, and Poultry Pathology. During 1993, more that 540 students are taking the courses. Postgraduate activities have been organized since the beginning of the Institute. Three International Courses on Immunohistochemistry, Lectin-histochemistry, and Electron Microscopy have been held in the last years, with the participation of colleagues from all over Argentina, Brazil, Chile and Uruguay and Professors from Argentina and Japan. One Seminar on Veterinary Oncology was conducted 1991 by an Expert from Japan. Additionally, members of our staff regularly participate as visiting professors in many educational institutions either in Argentina or in neighbor countries.

Regarding extension activities, the Institute of Pathology has established years ago a payable professional services for animal disease diagnosis. During the period, in the frame of the routine diagnostic work about 2,000 necropsies and 2,500 histopathological studies were carried out. The completely new electron microscopy laboratory and the laboratory for immunohistochemistry and lectin histochemistry have given technical support to official institutions in diagnostic problems and research.

The full impact of the Project in our area is not easy to evaluate. Our traditional laboratory for necropsy, histopathology and cytology was considerably improved with new equipment and methods. Shared efforts of Japanese and Argentine scientists brought about professional training, knowledge transfer and the foundation of research lines. The laboratories for immunohistochemistry, lectin histochemistry and electron microscopy were established. The external impact is even more difficult to estimate; among other things, three international postgraduate courses have been instrumental in knowledge transfer to colleagues from all over Argentina, Brazil, Chile and Uruguay. Samples from diverse institutions and geographical origins have been studied in our new facilities.

Our area is now much better prepared to follow the present trends in modern Pathology and to cope with future challenges of scientific and technological evolution.

## VIROLOGY

RESPONSIBLE: Dr. María Elisa ETCHEVERRIGARAY

REPORT YEAR 1993

### a) EQUINE HERPES VIRUS

- 1- Monoclonal antibodies production against an Argentine strain (PMo) were developed.
- 2- Hemagglutination antigen from EHV-4 (TH20) was produced. (first step) 3- Diagnostic service and control of export horses was continued. During this period 74 equine sera were tested by virus neutralization test and 6 aborted fetus were processed for isolation.
- 4- The DNA of 6 Argentine EHV-1 strains and 2 reference strains were obtained and compared by restriction endonuclease analysis.
- 5- Affinoblotting using lectins: comparison between EHV-1, SHV-1 and BHV-1 glycoproteins.

### b) SUID HERPES VIRUS (SHV-1 - Aujeszky's disease)

- 1- Production of antisera against 8 strains of SHV-1 in rats.
- 2- Diagnostic service: 3 samples were received and processed for isolation of SHV-1 and 30 pig sera were analyzed by VN test.
- 3- Immunoblotting technique was standardized and used for studies on proteins from 8 SHV-1 strains and SDS-PAGE using NP-40 membrane antigens were carried out and compared.
- 4- The new strain isolated in 1992 (TL 92) was characterized and compared with other 8, by physicochemical and culture methods.
- 5- The DNA of the 8 viral strains were analyzed using six restriction enzymes, and could be establish their genome types. 6- Affinoblotting using lectins: comparison between EHV-1, SHV-1 and BHV-1 glycoproteins.

c) BOVINE HERPES VIRUS (BHV-1 - IBR)

These works were made together with a member of CEDIVE staff. This researcher is receiving training in virological methods with the object to organize a viral diagnostic laboratory in CEDIVE.

- 1- Production of NP-40 membrane antigen for ELISA test.
- 2- Standarization of virus neutralization techniques to using as routine service.
- 3- Viral isolation techniques were employed with field samples.
- 4- Affinoblotting using lectins: Comparisson between EHV-1, SHV-1 and BHV-1 glycoproteins.

d) EQUINE INFECTIOUS ANEMIA (EIA)

The diagnostic kits production and diagnostic service was continued. Two hundred and fifty EIA diagnostic kits were produced. Three hundred equine sera were analyzed by Immunodiffusion technique.

e) BOVINE LEUKEMIA (BL)

The diagnostic kits production and diagnostic service was continued. Hundred BLV diagnostic kits were produced.

f) EQUINE ARTERITIS VIRUS (EVA)

The diagnostic service and control of export horses was continued. During the period were tested 552 horses. Three semen samples were processed for virus isolation.

## VIROLOGY

### PUBLISHED PAPERS

- 1.- Pseudorabies (Aujeszky's disease) in Argentina. - Echeverría, M.G.; Nosetto, E.O.; Etcheverrigaray, M.E.; Galosi, C.M.; Fonrouge, R.D.; Pereyra, N.B.; Belak, K.; Gimeno, E.J.- Rev.Sci.Tech.Off.Int.Epiz. (OIE), vol 11 (3):819-827, 1992.
- 2.- Evolutionary pattern of the H3 Haemagglutinin of Equine Influenza Viruses: multiple evolutionary lineages and frozen replication.- Endo, A.; Pecoraro, M.R.; Sugita, S.; Nerome, K. - Arch.Virol. 123:73-87, 1992.
- 3.- Estudios de la persistencia de Herpes Virus Equino-1 (EHV-1) en equinos vacunados y no vacunados de la provincia de Buenos Aires. Galosi, C.M.; Oliva, G.A.; Etcheverrigaray, M.E. Med.Vet. Barcelona (Spain) vol 9, N°11:637-643, 1992.
- 4.- Anemia infecciosa de los pollos. Su presencia en Argentina. Buscaglia, C. Conferencia en Proceeding del Seminario Internacional de Ciencias Avícolas para profesionales y empresarios, Bs.As. Argentina 135-141, 1992.

### SUBMITTED PAPERS

- 1.- Rinitis a cuerpos de inclusión del cerdo: estudio con microscopía óptica y electrónica. - Perfumo, C.J.; Petruccelli, M.A.; Aguirre, J.I.; Idiart, J.R.; Itagaki, S.I.; Echeverría, M.G.- En juzgamiento, Boletim do Instituto de pesquisas veterinarias "Desiderio Fianamor", Porto Alegre, Brasil.
- 2.- Virus Herpes Equino 1 y 4: perspectivas en vacunas y vacunación. Galosi, C.M.; Oliva, G.A.; Etcheverrigaray, M.E. Therios, 1993.
- 3.- Desarrollo de un Enzimo Inmunoensayo Indirecto para el diagnóstico del Virus Herpes Equino tipo 1. Galosi, C.M.; Oliva, G.A.; Nosetto, E.O.; Tohya, Y.; Etcheverrigaray, M.E. Rev.Med.Vet. 1993.

### PRESENTED IN SCIENTIFIC MEETINGS

- 1.- Swine pneumonia: lesions produced by the interaction between Actinobacillus Pleuroneumoniae and Aujeszky's Disease Virus.- Perfumo, C.J.; Petruccelli, M.A.; Massone, A.R.; Herrero Loyola, M.; Echeverría, M.G.- 13th Panamerican Congress of Veterinary Sciences, Santiago de Chile, october 1992.

2.- Resultados preliminares en la producción de anticuerpos monoclonales (AcM) contra el virus herpes equino-1 (EHV-1). Galosi, C.M.; Oliva, G.A.; Nosetto, E.O.; Tohya, Y.; Norimine, J.; Etcheverrigaray, M.E.

3.- Analisis comparativo de 8 cepas del virus de la Pseudorrabia porcina (PrV) por medio de sus patrones de restricción del ADN. Resultados preliminares. Echeverría, M.G.; Norimine, J.; Etcheverrigaray, M.E.; Nosetto, E.O.

4.- Estudios comparativos de especificidad de lectinas a glicoproteínas de virus herpes animales. Resultados preliminares. Echeverría, M.G.; Nosetto, E.O.; Oliva, G.A.; Galosi, C.M.; Valera, A.R.; Pidone, C.L.; Norimine, J.; Etcheverrigaray, M.E.; Gimeno, E.J.

5.- Leucosis bovina enzoótica: evaluación del antígeno de diagnóstico por ELISA e inmunoblotting. González, E.T.; Oliva, G.A.; Nosetto, E.O.; Etcheverrigaray, M.E.;

2, 3, 4 y 5: presentados en la Segunda reunión de docentes e investigadores de la Facultad de ciencias Veterinarias de la UNLP. La Plata, marzo de 1993.

6.- Relación de los valores de ELISA para anticuerpos contra viruela aviar y lesiones post-vacunales. Buscaglia, C.; Bankowski, R.A.

7.- Estudios sobre fallas de vacunación de Enfermedad de Marek en Argentina (1a. parte). Buscaglia, C.; Crosetti, C.

6 y 7: presentados en VIII Reunión anual de la Asociación Argentina de Veterinarios de Laboratorios de Diagnóstico, Corrientes, 1992.

8.- Studies on Marek's disease vaccination failures in Argentina. Buscaglia, C.; Crosetti, C. 4th International Symposium on Marek's Disease, Amsterdam, Holland, 1992.

9.- Chicken infectious anemia in Argentina. Buscaglia, C.; Crosetti, C. 42nd Western Poultry Disease conference, Sacramento, California, USA.

10.- Restriction endonuclease analysis of Equine Herpesviruses isolated in Argentina. Galosi, C.M.; Norimine, J.; Echeverría, M.G.; Oliva, G.A.; Nosetto, E.O.; Etcheverrigaray, M.E.

11.- Isolation of an A/Equi subtype 2 Equine influenza virus from the 1993 outbreak in Argentina. Damiani, A.; Nosetto, E.O.; Massone, R.; Etcheverrigaray, M.E.

12.- Restriction endonuclease analysis of several Aujeszky's disease viral strains. Echeverría, M.G.; Norimine, J.; Galosi, C.M.; Oliva, G.A.; Etcheverrigaray, M.E.; Nosetto, E.O.

13.- Characterization of several Aujeszky's disease viral strains by virus neutralization test using monoclonal antibodies. Nosetto, E.O.; Echeverría, M.G.; Horimoto, T.; Limcumpao, J.; Galosi, C.M.; Tohya, Y.; Norimine, J.; Takahashi, E.; Etcheverrigaray, M.E.; Mikami, T.

14.- The cloning of BamHI fragments of Aujeszky's disease virus (Argentine strain CL-15) DNA. Norimine, J.; Echeverría, M.G.; Nosoetto, E.O.; Etcheverrigaray, M.E.

15.- Lectin binding to glycoproteins induced by infection with different herpesviruses on MDBK-cell cultures. Echeverría, M.G.; Nosoetto, E.O.; Oliva, G.A.; Galosi, C.M.; Valera, A.R.; Pidone, C.L.; Norimine, J.; Etcheverrigaray, M.E.; Gimeno, E.J.

16.- Antigenic analysis of feline calicivirus capsid precursor protein and its deleted polypeptides produced in a mammalian cDNA expression system. Tohya, Y.; Shin, Y.; Oshikamo, R.; Kawaguchi, Y.; Tomonaga, K.; Miyasawa, T.; Kai, C.; Mikami, T.

17.- Identification of Chicken infectious anemia and isolation of the virus in Argentina. Buscaglia, C.; Crosetti, C.; Nervi, P.

18.- Studies on Marek's disease vaccination failures in Argentina (1st. part). Buscaglia, C.; Crosetti, C.

10, 11, 12, 13, 14, 15, 16, 17 y 18 in Proceeding of Second meeting on the Cooperative Research project in the area of Veterinary Sciences between National University of La Plata and Japan International Cooperation Agency, August 12-14, 1993.

## LABORATORY ANIMALS

### FOLLOW UP OF FOUR YEARS WORKS

This area started on July 1989 when Dr. K. Koshinizu<sup>M</sup> visited the Faculty to begin planning the building of the new Facility and to carry on research works on Mycoplasma isolation from several species, also from experimental animals mainly rats and mice.

During 1990 the new Facility was designed, the main equipment was requested and several alternatives for the installation of the air conditioning system were analyzed.

On December 1990 the construction of the new building started.

Activities developed in 1991:

#### 1- E.C.G. Techniques in Laboratory Animals.

With the advise of Prof. Dr. S. Sugano (30/1 TO 28/2 1991) ECG techniques in rats, guinea pigs, fowls, rabbits, dogs, horses and Myocastor coypus (nutria) were performed.

Different methods of anesthesia, positions, velocity and sensitivity were studied in the ECG records of these species.

Protocols records were designed.

15 Myocastor coypus were studied to determine the standard ECG wave in these animals. The adequate method for anesthesia, suitable position, and the fundamental properties of T wave and QRS segment were determined.

At the present time this research continues under the advise of Prof. Sugano with more number of animals from a breeding farm. Amplitudes and the apparent existence of ST segment in Myocastor coypus ECG are now being studied.

#### 2- Microbiological monitoring

Microbiological monitoring techniques were developed in an outbred CF-1 mice colony.

Four screenings with a frequency of two months were performed to determine infections with: *Bordetella bronchiseptica*, *Pasteurella* sp., *Salmonella* sp., *Shigella* and *Pseudomona aeruginosa*.

Parasitological monitoring: 25 mice colonies from different facilities of Argentine were monitored by using conventional techniques to determine the prevalence of these infections.

### 3- Control of Diets

The first results of a comparative study of 2 commercial diets related with changes in biological and reproductive parameters in a Wistar rat colony have been obtained.

The objective of this study is to determine the efficiency of pelleted food for small rodents in Argentine.

### 4- Services for others breeders

Since June 1991 a parasitological monitoring service was established.

### 5- Ethics and Legislation

The first reglamentation for the care, use and management of animals in the Faculty of Veterinary Sciences La Plata National University have been developed.

Committee: Itagaki, S; Carbone, C; Pecoraro, M.; Perfumo, C.

### 6- Research Works presented in Scientific Meetings

"Electrocardiography in *Myocastor coypus*"

Carbone, C; Alonso, C; Moralejo, D; Jurado, S

First International Zoo meeting. La Plata. May 3 1991.

### 7- Research Works Submitted for Publication

"Prevalence of Parasites in Argentine Mice Colonies"

Carbone, C; Bonzo, E; Flamini, A; Moralejo, D; Ciancaglini, C; Ayala, M; .

Lab. Animal Sci. AALAS. USA. September 1991.

### 8- Articles Submitted to be published



"Laboratory Animal Science in Argentine. Current state and future prospects" . Carbone, C. Published in ICLAS Bull. Aug. 1991.

On February 1992 Dr. Prof. Matsumoto stayed in this laboratory for three months and began with genetical monitoring techniques. During that period, a Post-graduated course entitled "Defined experimental animals, breeding, maintenance and use", was held in the Department of Chemical Sciences, Univ. of Cordoba.

On May 1992 the ceremony in the new facility took place, since then all the activities have been developed there.

On June 1992, this area received the visit of two Japanese experts: Dra. Eiko Suzuki and Dr. Hiroshi Ikadai. Under the advise of Dra. Suzuki, the following activities were developed: Microbiological monitoring for rat and mice colonies was set up in order to control the SPF animals breed in the new Facility and to establish a service for other breeders. From June to August 84 mice and 11 rats were examined in order to elucidate its microbiological status. This study showed the following results:

- Bacteriological examination : *Pseudomonas aeruginosa*, *Corynebacterium kutscheri* in mice, *Bordetella bronchiseptica* and *Mycoplasma pulmonis* in rats, parasitology examination: *Syphacia obvelata*, *Aspicularis tetraptera*, *Myobia musculi* in mice, *Giardia muris* in mice and rats, and *Cisticercus fasciolaris* in rat liver. Although the serological tests were performed only one or two times, the most common pathogens: Sendai virus (HVJ), mouse hepatitis virus (NHV) and *Mycoplasma pulmonis* were used to antigens for diagnostic.

On July 1992, a microbiological monitoring service for other breeders started.

Microbiological monitoring of rat and mice: samples were received to be studied against the following microorganisms:

- A- Bacterial cultivation:
- *Pseudomonas aeruginosa*
  - *Salmonella* spp.
  - *Escherichia coli*
  - *Pasteurella pneumotropica*
  - *Bordetella bronchiseptica*

- *Corynebacterium kutscheri*
- B- Mycoplasma cultivation
  - Mycoplasma spp.
- C- Serology:
  - Sendai virus
  - Mouse hepatitis virus
  - *Bacillus piliformis* (Tyzzer)
  - *Mycoplasma pulmonis*
  - *B. bronchiseptica*
  - *C. kutscheri*
- D- Parasitology:
  - *Eimeria* sp.
  - *Giardia muris*
  - *Hexamita muris*
  - *Syphacia* spp.
  - *Cysticercus fasciolaris*
  - *Myobia musculi*

Under the advise of Dr. Ikadai, the SPF colony start working, the air conditioning and enviromental systems were checked and the SPF mice and rat breeding methods were planned.

On January 1993 the first SPF rats arrived the Facility from Japan and on march of the same year, the first SPF mice entered. Currently the SPF mice and rat colony are being expanded.

#### 9- Post-graduated course

A post-graduated course titled: "The Laboratory rat and mice, breeding, genetics and disease", will be held in this area since june 21 to 26. Ten professionals from Latin American Countries attended it.

**NAME OF EXPERTS**

**DR. SHIGERU SUGANO**

January 28th - MARCH 2nd. 1991

**DR. KOZO MATSUMOTO**

February 23th-May 6th 1992

**DRA. EIKO SUZUKI**

June 10-31 August 1992

**DR. HIROSHI IKADAI**

June 10th 1992-June 7th. 1993



AÑO 1993

Rats: 31 (Wistar-Fisher-ACI/N)\*  
136 (Wistar-Low-Long Evans)\*\*

Mice: 119 (CF-1, Balb/c, MPS)\*  
657 (CF-1, Balb/c, MPS,  
C3H, C57BL/N)\*\*

\*Sold animals

\*\*Animals supplied free of charge

**MICROBIOLOGICAL MONITORING**

Private Laboratories: 6

Official institutions: 8

DEPARTMENT OF GENETICS  
Faculty of Veterinary Sciences  
National University of La Plata

SUMMING-UP OF ACTIVITIES 1990-1993

**Responsible:**

*F. N. Dulout and M. M. Lojo*

**Staff:**

*M. L. Ciarmela, J. C. De Luca, G. Giovambattista, C. Golijov, M. A. Gómez, C. A. Grillo, M. P. Heras, S. Milocco, R. Napolitano, A. I. Seoane, M. C. Terreros,*  
Basic and Applied Genetics Research Center (CIGIBA)

Experts from Japan: 1 (one month)

Fellowships in Japan: 2

Amount of grants received from JICA: Approximately \$160,000.-

New techniques developed during the three years: 1) analysis of induced aneuploidy in cell cultures using the anaphase-telophase test; 2) analysis of induced aneuploidy in peripheral blood lymphocytes; 3) analysis of induced micronuclei in peripheral blood lymphocytes; 4) in vitro lymphocyte cultures of domestic animals; 5) direct plate method for competent bacteria transformation; 6) direct method for the detection of mutagens in urine; 7) Southern blotting for DNA analysis (pV47-2, thymidilate synthetase); 8) polymerase chain reaction (PCR) for DNA analysis (k-casein gene,  $\beta$ -casein gene, prolactin).

Number of papers produced: 3 original papers

New laboratories: Laboratory of Cell Culture and Laboratory of Molecular Genetics.

Impact of new techniques and equipment in external services and post-graduate education: Development of new tests to analyze genetic damage induced by environmental pollutants and to detect mutagens excreted in urine gave the possibility to study, for example, genetic damage induced in workers exposed to organic solvents. This work is carried out by agreement with a petroleum company. The experience is being transferred in courses of the Postgraduated School of Environment and Environmental Pathology (agreement between the National University of La Plata and the University of Siena, Italy), located in the CIGIBA. Analysis of DNA will give the possibility to perform genetic studies related to animal production and to improve the service of paternity analysis in domestic animals. Members of the Laboratory of Molecular Genetics were invited in 1992 to deliver a postgraduated course on molecular genetics in the Faculty of Natural Sciences and Museum of the University. During this year two postgraduated courses on molecular genetics will be delivered by members of the group.

Remarkable facts of the group: Development of modern genetics techniques. Training of young scientists.

Future projects: Genetic toxicology studies of environmental pollutants and molecular genetic studies in domestic animals focused on production improvement.

DEPARTMENT OF PHYSIOLOGY  
*Faculty of Veterinary Sciences*  
National University of La Plata

SUMMING-UP OF ACTIVITIES 1990-1993

**Responsible:**

*E. M. Zaccardi*

**Staff:**

*C. E. Ramirez, C. M. Tittarelli.*

**Experts from Japan:** none

**Fellowships in Japan:** 1

**Amount of grants received from JICA:** Approximately \$120,000

**Number of papers produced:** 2 original papers.

**New Techniques developed during the three years:** 1) modification of ceruloplasmin assay, for plasma copper measurement. 2) analysis of ceruloplasmin activity through o-dianisidine oxidation. 3) atomic absorption spectrophotometry for Ca, Mg, Fe, Cu, Zn, Na and K. 4) Phosphorus analysis through ammonium-molybdate method. 5) tissue and forage metal analysis by wet digestion and atomic absorption spectrometry. 6) glucose analysis.

**New laboratories:** Mineral nutrition service.

**Impact of new techniques and equipment in external services and postgraduate education:**

Thanks to the new equipment we were able to start a Mineral Nutrition Service in November 1992. Our research activities are focused in cattle mineral deficiencies, and in this field we have provided an improvement in an enzymatic assay for copper measurement and started a low cost mapping project for copper deficiency using the improved technique. Also as part of the activities of this group, this year a Postgraduate course on Cattle mineral deficiencies will be held on may, and much of the information that will be presented was obtained during the last months of work.

**Remarkable facts of the group:** Training of young research personnel, and cooperative work with CEDIVE in the study of cattle copper deficiency.

**Future projects:** In the near future a research project will be started, concerning the study of the incidence of cattle mineral deficiencies in a nearby district. This project is a methodological approach to the systematic study of cattle mineral deficiencies in geographical delimited areas.

DEPARTMENT OF BIOCHEMISTRY  
*Faculty of Veterinary Sciences*  
National University of La Plata

SUMMING-UP OF ACTIVITIES 1990-1993

**Responsible:**

*A. Cutala*

**Staff:**

*R. Zanetti, A. Palacios, V. Piergiacomi, C. Arcenís, A. Cerruti.*

**Experts from Japan:** 1

**Fellowships in Japan:** 1

**Amount of grants received from JICA:** Approximately \$ 135,000.-

**Number of papers produced:** 7 publication; 7 presentations to scientific meetings; Doctorates thesis approved: 1 in redaction, 1 in progress

The main objective of these studies is to provide evidence concerning the participation of fatty acid binding protein (FABP) as a vehicle of long chain fatty acids and retinoids in laboratory animals. An extension of this study analyze this protein in farm animals. Investigations include isolation and characterization of FABP, with natural and artificial membranes, and their relation with other cytosolic proteins.

**Training Course:** A training Course in lipid methodology has been already diagrammed

**Future plan:** In the presence of a free radical or a free radical initiator, biological material, particularly cell membranes (nuclei, mitochondria, microsomes) which contain a relatively high proportion of polyunsaturated lipids, become susceptible to oxidation leading to cell injury. The peroxidation of unsaturated fatty acids may disturb the fine structure of biological membranes and may thus affect the functions of the membrane, including interaction with cytosolic proteins e. g. (FABP). It is our interest to study the interaction of native or peroxidated membranes (nuclei, mitochondria, microsomes) containing long chain fatty acids with cytosolic proteins.



Annex 11 Achievement Status of Research Activities

| Item   | Dept.   | Year | 1 st | 2 nd | 3 rd | 4 th | 5 th | Achievement status                                   |     |
|--|---|------|------|------|------|------|------|--|-----|
| 1. Basic research activities on patho-morphological studies  |   |      |      |      |      |      |      | ※ [A] : Excellent<br>[B] : In progress<br>[C] : Poor |     |
| (1) Research of anaerobic bacterial diseases   | [ MB ]  |      |      |      |      |      |      |  | [C] |
| (2) Research of toxoplasmosis  | [ PR ]  |      |      |      |      |      |      |  | [B] |
| (3) Research of viral diseases   | [ VR ]  |      |      |      |      |      |      |  | [A] |
| (4) Pathological and histopathological studies of infectious diseases                                      | [ PA ]  |      |      |      |      |      |      | [A]  |     |
| 2. Basic research activities on morphological & physiological studies using laboratory animals             |   |      |      |      |      |      |      |  |     |
| (1) Studies on modulation of genetic response, gene expression and gene manipulation in laboratory animals | [ GN ]  |      |      |      |      |      |      | [A]  |     |
| (2) Microbiological & genetic reproduction of laboratory animals   | [ LA ]  |      |      |      |      |      |      | [C]  |     |
| (3) Host responses to micro-biological agents analyzed in laboratory animals                               | [ MB ] , [ VR ]                                       |      |      |      |      |      |      | [B]  |     |
| 3. Patho-physiological & patho-biochemical research activities on the evaluation of infected animals       |   |      |      |      |      |      |      |  |     |
| (1) Lipid and copper metabolism in animals   | [ PI ] , [ BC ]                                       |      |      |      |      |      |      | [B]  |     |
| (2) Morphological studies associated with abnormal metabolisms in animals                                  | [ PT ]  |      |      |      |      |      |      | [B]  |     |
| 4. Comprehensive research activities aimed at field applications   |   |      |      |      |      |      |      |  |     |
| Improvement of diagnostic techniques for infectious diseases and mineral deficiencies in domestic animals  | [ CE ] , [ VR ]<br>[ MB ] , [ VR ]<br>[ PR ] , [ PI ] |      |      |      |      |      |      | [C]  |     |

Note: (1) Detail of research topics under Article 2, 3 and 4 shall be formulated annually at the Joint Committee after considering the progress of the Project.

(2) Each department is shown as; MICROBIOLOGY [ MB ], PARASITOLOGY [ PR ], VIROLOGY [ VR ], PATHOLOGY [ PA ]  
 GENETICS [ GN ], PHYSIOLOGY [ PI ], LABORATORY ANIMALS [ LA ], BIOCHEMISTRY [ BC ]  
 FEDIVE [ CE ]

## Annex 12

Oral Presentation and Publication of Scientific Papers

(UP TO THE END OF JUNE 1993)

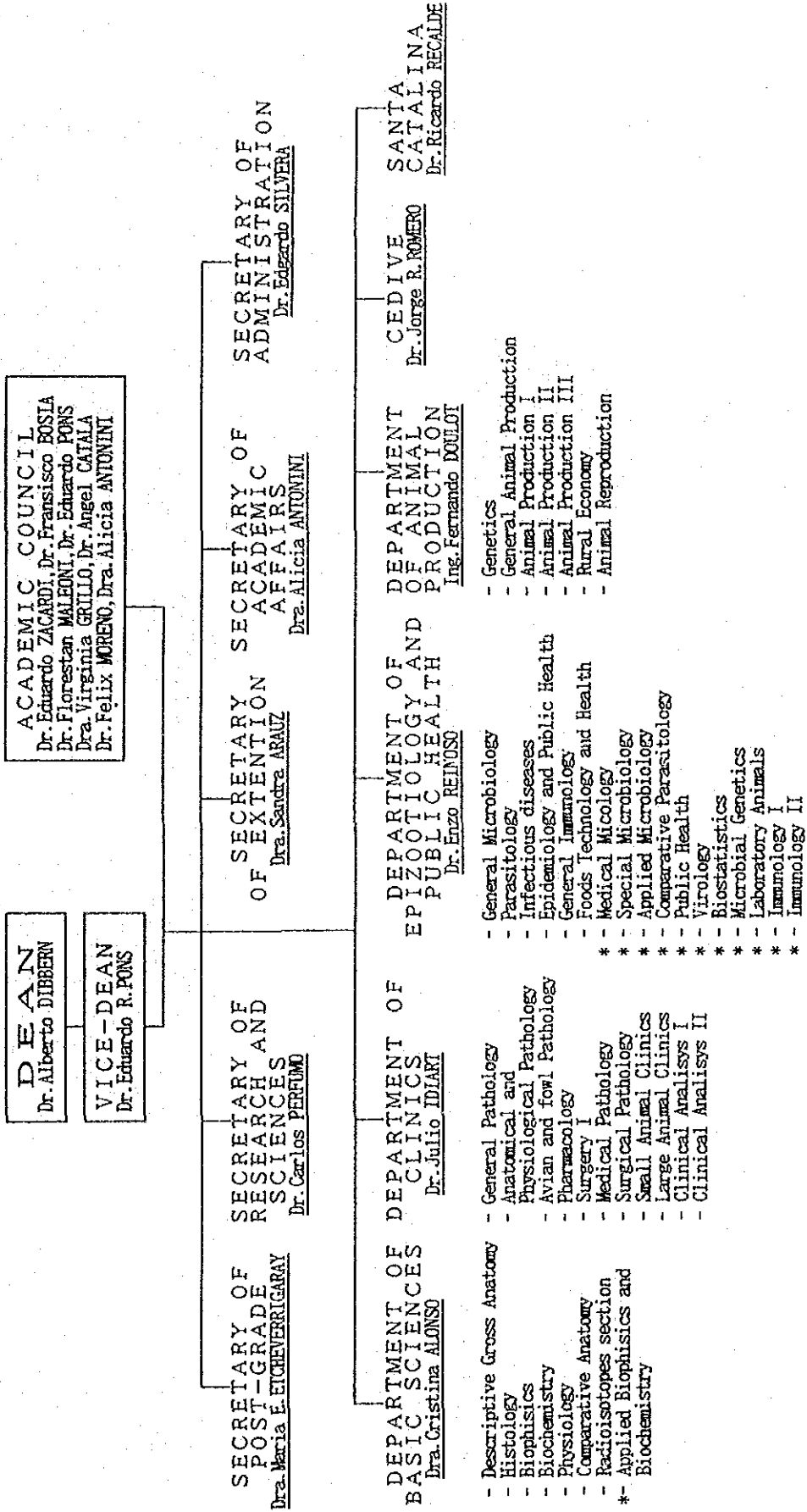
| DISCIPLINE     | 1989 |   | 1990 |    | 1991 |    | 1992 |    | 1993   |    | TOTAL |     |
|----------------|------|---|------|----|------|----|------|----|--------|----|-------|-----|
|                | P    | O | P    | O  | P    | O  | P    | O  | P      | O  | P     | O   |
| Laboratry Ani. | 0    | 0 | 0    | 0  | 1    | 1  | 1    | 6  | 1(3)   | 4  | 2     | 11  |
| Parasitology   | 0    | 0 | 0    | 0  | 0    | 9  | 5    | 11 | 2      | 5  | 7     | 25  |
| Pathology      | 0    | 4 | 0    | 13 | 4    | 4  | 11   | 12 | 2(2)   | 9  | 17    | 42  |
| Microbiology   | 0    | 0 | 0    | 3  | 0    | 9  | 1    | 0  | 2      | 6  | 3     | 18  |
| Virology       | 0    | 1 | 0    | 7  | 7    | 3  | 5    | 3  | 0(4)   | 6  | 12    | 20  |
| Genetics       | 5    | - | 7    | -  | 11   | -  | 7    | 10 | 6(6)   | 0  | 36    | 10  |
| Physiology     | 0    | 0 | 0    | 0  | 0    | 0  | 1    | 2  | 0(2)   | 3  | 1     | 5   |
| Biochemistry   | -    | - | 2    | 3  | 1    | -  | 1    | 3  | 1(1)   | 1  | 5     | 7   |
| CEDIVE         | 1    | 0 | 0    | 0  | 0    | 5  | 3    | 3  | 0      | 7  | 3     | 15  |
| TOTAL          | 6    | 5 | 9    | 26 | 24   | 31 | 35   | 50 | 14(18) | 41 | 86    | 153 |

PROVISO : P (PUBLICATION)

O (ORAL PRESENTATION)

( ) ARTICLES ARE UNDER PREPARATION OR WERE SUBMITTED FOR PUBLICATION,  
HOWEVER, THEY ARE STILL BEING REVIEWED.

Organizational Chart of the Project



\* These chairs belong to the postgraduated course of Bacteriologist.

Annex 14

Postgraduate Courses Organized by the Faculty of Veterinary Sciences

(UP TO THE END OF AUGUST 1993)

|                           | 1990 | 1991 | 1992 | 1993 |
|---------------------------|------|------|------|------|
| No. of Courses            | 5    | 5    | 9    | 6    |
| Total No. of Participants | 146  | 42   | 254  | 59   |

## Annex 15 Cooperative Relationships of FVS with INTA and SENASA

|        | DISCIPLINE  | DEPARTMENT  |
|--------|---|---|
| INTA   | a) Cooperative research<br>Equine viral diseases (Castelar)<br>Babesiosis (Rafaela)<br>Micotoxins (Castelar)<br>Salmonella Enteritidis (Balcarce) | Microbiology<br>Pathology<br>Virology<br>Parasitology |
|        | b) Education<br>Cooperative investments in educational programme  | All Departments                                       |
| SENASA | a) Cooperative research and diagnosis   | CEDIVE<br>Pathology                                   |
|        | b) Post-graduate course   | All Departments                                       |
|        | c) Advisory committee on exotic diseases<br>(Dr. Etcheverrigaray)<br>Export and import control of EAV and<br>EHV-1                                | Virology  |

**THE MINUTES OF THE JOINT COMMITTEE FOR  
THE RESEARCH PROJECT AT THE FACULTY OF VETERINARY  
SCIENCE, THE NATIONAL UNIVERSITY OF LA PLATA  
IN THE ARGENTINE REPUBLIC**

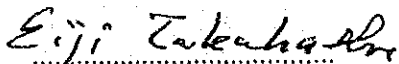
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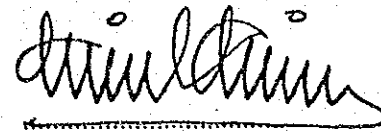
The Japanese technical cooperation by the Japan International Cooperation Agency (hereinafter referred to as "JICA") for the Research Project at the Faculty of Veterinary Science, the National University of La Plata (hereinafter referred to as "the Project") started on March 1, 1989 with its duration of five years, in accordance with the Record of Discussions signed on December 15, 1988 between the Japanese Implementation Survey Team and the authorities concerned of the Government of the Argentine Republic.

The Fifth Joint-Committee Meeting for the Project was held on August 20, 1993 at the Conference Room of the University of La Plata, La Plata, the Argentine Republic.

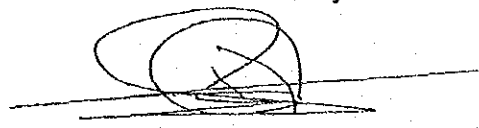
The Committee discussed the Evaluation Report presented by the Joint-Evaluation Team of the Project which conducted its evaluation study at the Faculty of Veterinary Science, the National University of La Plata, from August 10, to August 23, 1993. The Team was represented by the Japanese and Argentine delegations led by Dr. Takeshi MIKAMI and Dr. Horacio Norberto GARCIA VALENTI, respectively. Both delegations formed the Joint-Evaluation Team. All recommendations from the Joint-Evaluation Report attached hereto were discussed and accepted by the Joint Committee.

August 20, 1993

  
.....  
**Dr. Eiji TAKAHASHI**  
Japanese Project Leader  
Japan International Cooperation  
Agency, JICA

  
.....  
**Prof. Ing. Luis Julian LIMA**  
President  
The National University  
of La Plata

Witnessed by

  
.....  
**Dr. Alberto Ricardo DIBBERN**  
Dean  
Faculty of Veterinary Science  
The National University  
of La Plata

## MINUTES OF THE FIFTH JOINT-COMMITTEE MEETING

Date : August 20, 1993  
Time : 16:00 hrs.  
Venue : Conference Room  
The National University of La Plata  
La Plata  
Argentine Republic

### ATTENDANCE

#### 1. Chairman

Prof. Ing. Luis Julian LIMA      President  
The National University of La Plata  
(NULP)

#### 2. Members (i)

Argentine side

Dr. Claudio CONTRERAS      General Secretary  
NULP

Dr. Alberto DIBBERN      Dean  
The Faculty of Veterinary Science  
(FVS) - NULP

Dr. Edgardo NOSETTO      Project Coordinator

Dra. María ETCHEVERRIGARAY      Secretary of Post-Graduate  
FVS - NULP

Dr. Carlos PERFUMO      Secretary of Science and Technology  
FVS - NULP

Dra. Alicia ANTONINI      Academic Secretary  
FVS - NULP

Dra. Sandra ARAUZ      Secretary of Extension  
FVS - NULP

Dr. Julio IDIART      Professor of Pathology  
FVS - NULP

Dr. Eduardo GIMENO      Professor of Pathology  
FVS - NULP

|                        |  |
|------------------------|--|
| Dr. Miguel PETRUCCELLI | Assistant Professor of Pathology<br>FVS - NULP   |
| Eng. Fernando DULOUT   | Professor of Genetics<br>FVS - NULP              |
| Dra. Lucila VENTURINI  | Professor of Parasitology<br>FVS - NULP          |
| Dra. Cecilia CARBONE   | Associate Professor of Lab Animals<br>FVS - NULP |
| Dr. Eduardo ZACCARDI   | Professor of Physiology<br>FVS - NULP            |
| Dr. Angel CATALA       | Professor of Biochemistry<br>FVS - NULP          |
| Dr. Jorge ROMERO       | Vice-Director CEDIVE<br>FVS - NULP               |

(ii)

Japanese side

|                       |                                    |
|-----------------------|------------------------------------|
| Dr. Eiji TAKAHASHI    | Leader<br>Project-JICA Expert Team |
| Mr. Shoji KIBE        | Coordinator<br>JICA                |
| Dr. Junzo NORIMINE    | Expert<br>JICA                     |
| Dr. Seigo YAMAMOTO    | Expert<br>JICA                     |
| Dr. Kozo MATSUMOTO    | Expert<br>JICA                     |
| Dr. Ikuo IGARASHI     | Expert<br>JICA                     |
| Dr. Shin-ichi ITAGAKI | Expert<br>JICA                     |
| Dr. Yukinobu TOHYA    | Expert<br>JICA                     |



Mr. Reiji KAWAKAMI

Resident Representative of JICA  
in Argentina

3. Joint-Evaluation Team

(i) Argentine side

Dr. Horacio G. VALENTI

Assistant Professor  
FVS - NULP

Dr. Néstor AUZA

Vice-President  
The National Institute of Agricultural  
Technology,  
The Agriculture, Livestock and  
Fishery Agency, Argentina

Dr. Jorge RODRIGUEZ TOLEDO

Director of Management Office of  
Laboratories,  
The National Service of Animal  
Health,  
The Agriculture, Livestock and  
Fishery Agency, Argentina

Dr. Eduardo R. PONS

Vice-Dean  
FVS - NULP

Dr. Rogelio E. BRUNIARD

Academic Secretary  
NULP

(ii) Japanese side

Dr. Takeshi MIKAMI

Professor  
Laboratory of Veterinary  
Microbiology,  
Department of Veterinary Medical  
Science,  
Faculty of Agriculture,  
The University of Tokyo

Mr. Nobutaka SUGITA

Head Administrator,  
Faculty of Agriculture,  
The University of Tokyo

Dr. Masanori KUBO

Head of Pathological Diagnosis  
Laboratory,  
Systemic Diagnosis Research  
Division,  
National Institute of Animal Health

Dr. Yuji MORI

Associate Professor  
Laboratory of Veterinary Ethology,  
Department of Veterinary Medical  
Science,  
Faculty of Agriculture,  
The University of Tokyo.

Mr. Nobuo KATO

Deputy Director,  
Livestock Technical Cooperation  
Division,  
Agricultural Development  
Cooperation Department, JICA



JICA