

**RECOGNITION OF ARGENTINA FREE OF
NEWCASTLE DISEASE**

**ANSWERS TO APHIS AMPLIATORY
QUESTIONNAIRE**

SENASA

Noviembre de 2002

Servicio Nacional de Sanidad y Calidad Agroalimentaria
Secretaría de Agricultura, Ganadería, Pesca y alimentos
Ministerio de la Producción

ANSWERS TO THE QUESTIONNAIRE SUBMITTED BY THE UNITED STATES
APHIS RELATED TO NEWCASTLE DISEASE IN THE ARGENTINE REPUBLIC

EPIDEMIOLOGICAL SURVEILLANCE

- 1) Industrial (commercial) and non- industrial production birds and other animal species are under the "National Epidemiological Surveillance System", SENASA Rule N° 234/96, that sets forth the procedures for the notification of diseases and their communication systems. As to Newcastle disease, specifically, the SENASA Rule 683/96 states the procedures for the notification of a suspect or confirmation of cases of the disease and actions and measures to be taken if an outbreak occurs. The contents of the Rules have been transferred to the "Procedures Manual for Newcastle Disease". SENASA's official veterinarians and assistants throughout the country and private veterinarians specialized in poultry breeding must have the above mentioned Manual.
- 2) Permanently, the "Active Epidemiological Surveillance Program for Newcastle Disease" is developed. It consists of a permanent sampling of industrial birds, non-commercial production birds, sports pigeons and wild birds in order to determine the likely presence of viral activity (samples of cloacal and tracheal swabbing for viral isolation in hen's embryos) and the control of immunity levels in vaccinated industrial birds (serum samples for determination of specific antibodies against NCD by the HI technique). Following this schedule, the Program changes year to year according to the risk assessment, results obtained in each year, and practical possibilities of its implementation. In 2000, a sampling of backyard hens of provinces bordering Argentine North and East was carried out as well as in rural exhibitions, wild birds and industrial birds (1,248 samples for viral isolating and typing). In 2001, we focused on:
 - a) **The control of immunity levels in industrial production birds (*):** Serum samples were taken in poultry slaughterhouses (chicken and laying hens and breeders of the end of the cycle) by official veterinarians appointed for this purpose and they were sent monthly to our laboratory. Between July and December 2001, 7,051 serum samples were processed. 30 serums per batch were taken whose results were titres of HI equivalent to the vaccination programs. Duck serums were also processed, with very low titres (1/2 or negative) since they are not vaccinated against NCD. The objective of this sampling was to know the immunity levels against NCD with which industrial birds arrive to be slaughtered since we estimate that, due to non- occurrence of the disease and that vaccination is not compulsory, some farmers might have stopped vaccination. This was not proved with the results obtained.
 - b) **Tracing of viral activity in non- industrial production birds:** In 5 rural markets gathering birds (through bred hens and other ornamental birds) of different provinces and areas of the country (particularly from the provinces of Buenos Aires, Córdoba, Entre Ríos and Santa Fe) 538 samples of cloacal and tracheal swab of hens were taken. Samples were tested by the isolation technique in hen embryos turning out negative in 100% of the cases. Non- pathogen vaccine strains were isolated only in two samples.

- c) **Control on imported birds and controls for export:** ornamental birds or company birds and sports pigeons, which are quarantined as a requirement for import or export, are submitted to serological or isolation tests for Newcastle disease and for Avian Influenza. During 2001, these tests were carried out in 65 samples from which 32 belonged to sports pigeons and the remaining to ornamental birds.

**EPIDEMIOLOGICAL SURVEILLANCE OF NEWCASTLE DISEASE
YEAR 2001**

MONTH	NUMBER AND TYPE OF SAMPLE	ORIGIN	TECHNIQUE	RESULT
January	3 swabs	Import	Isolation	Negative
February	8 swabs	Import	Isolation	Negative
March	11 swabs	Export	Isolation	Negative
April	11 swabs	Export	Isolation	Negative
May	48 swabs	Rural Market	Isolation	Negative
June	48 swabs	Rural Market	Isolation	48 Negatives 1 lentogenic strain.
July	154 swabs 594 serums	Rural Market Slaughterhouse	Isolation HI Test	153 Negatives 1 lentogenic strain Vaccine Titre
August	20 swabs 853 serums	Rural Market Slaughterhouse	Isolation HI Test	Negatives Vaccine Titre
September	155 swabs 970 serums	Rural Market Slaughterhouse	Isolation HI Test	Negatives Vaccine Titre
October	39 swabs 1080 serums	Rural Market Slaughterhouse	Isolation HI Test	Negative Vaccine Titre
November	32 swabs 34 Serums 540 Serums	Pigeons Market hens Slaughterhouse	Isolation HI Test HI Test	Negative Vaccine Titre Vaccine Titre
December	74 swabs 1320 Serums	Pigeons, hens Slaughterhouse	Isolation HI Test	Negative Vaccine Titre

TOTAL : Viral Isolation : 603 samples: 601 negatives, 2 vaccine strains

Serology (HI Test): 5391 samples: 100% negatives

Serology (HI Test) in Laboratory of the Network INTA: 1660 samples: 100 % negatives

TOTAL SERUM SAMPLES TAKEN AT SLAUGHTERHOUSES: 7051

- 3) Two meetings with veterinarians specialized in poultry breeding (from farms and laboratories) are held monthly in the two major poultry breeding areas of the country, from which 80 professionals participate commonly from the provinces of Buenos Aires and Entre Ríos. SENASA participates in both meetings monthly. Poultry breeding problems and sanitary news are discussed there as well as suspects, if there are, of possible new diseases or reintroduction of eradicated diseases. Likewise, the *Comisión Nacional de Sanidad Avícola* (National Poultry Breeding Health Committee), composed of representatives of poultry breeding industry and other official agencies linked to the activity and under the coordination of the SENASA, meets each three months in order to update health news and the results of the epidemiological surveillance of the Newcastle disease and other fowl diseases.
- 4) **Familiar production (non- commercial or backyard production):** many ranches devoted to livestock production have some poultry for its own consumption. These birds are neither moved nor commercialized. There are no markets for trading live birds. During the last few years, poultry meat and eggs consumption of industrial production available at accessible prices have been increasing and familiar productions have been slowly replaced. There are 53,370 farms, approximately, that have birds (hens, chickens, ducks and geese) for own consumption in an average of 20 birds per farm.

As to the total number of backyard flocks and their distribution, the following information from the *Registro Nacional Sanitario de Productores Agropecuarios* (RENSPA- National Health Register of Farm Operators) is available:

Province	Ducks and geese	Hens, chicken
Total country	21, 974	1,067,471
Buenos Aires	5,253	107,384
Catamarca	453	9.578
Córdoba	5,794	27,079
Corrientes	-	23,191
Chaco	-	27,610
Chubut	76	350
Entre Ríos	2,198	42,279
Formosa	-	104,483
Jujuy	254	626
La Pampa	316	2,415
La Rioja	94	546

Mendoza	671	4,192
Misiones	-	189,396
Neuquen	528	400,756
Río Negro	432	548
Salta	224	1,190
San Juan	437	420
San Luis	195	44
Santa Cruz	41	15
Santa Fé	329	8,136
Sgo del Estero	4,221	22,782
Tucumán	528	1.551
T del Fuego	-	-

- 5) Since March 2000, exams in flocks to be slaughtered for export to the European Union to discard the presence of NCD virus are no longer carried out. Since said date, the EU authorized Argentina to export with the Certificate Model Type A (Decision 2000/254/EC).

DIAGNOSTIC LABORATORY CAPABILITIES

- 1) At the SENASA's official laboratory, samples of the active epidemiological surveillance of NCD and Avian Influenza are processed. No samples for routine diagnosis of industrial birds are received. If a private laboratory isolates a haemagglutinating virus which kills the hen's embryo from a sample suspected to be NCD, it must notify SENASA and submit the sample to the official laboratory to be identified and typed. When samples or sick birds whose symptoms might be compatible with NCD are received at private laboratories, they are analyzed, hen's embryos are inoculated and serological tests are carried out in order to discard the presence of NCD virus. If these tests are positive, they must notify immediately to SENASA.

The laboratories approved by SENASA are the following:

For isolation and diagnosis: Lab. Granja 3 Arroyos. Capilla del Señor, province of Buenos Aires

Lab. Instituto Rosembuch- Federal Capital

Lab.INTA- Concepción del Uruguay- Entre Ríos

For typing by RT-PCR: Lab. INTA- Castelar, *Instituto de Biotecnología* (Biotechnology Institute). Through an Interinstitutional Agreement between

SENASA (Central Laboratory) and CEVAN (CONICET), samples are characterized by RT-PCR and monoclonal antibodies.

From the reports issued by these laboratories and other private diagnostic laboratories or those belonging to Universities, the following data are available:

INFORMATION ON AVIAN DISEASES DIAGNOSIS RECORDED IN 2001

N° of Cases	Type of birds	Origin	Serology	Bacteriology	Differential with Newcastle	Final Diagnosis
40	Breeding hens	E. Ríos	*	*	No	Mycoplasma Sinoviae
27	Laying hens	Bs Aires	*	*	No	Mycoplasma Sinoviae
20	Breeding hens	Bs Aires	*	*	No	Mycoplasma Sinoviae
79	Broilers	Bs Aires		*	No	Colibacillosis
44	Broilers	Bs Aires	*	No	(*) Inoculation SPF embryos and HA	Infectious Bronchitis
6	Broilers	E. Ríos	*	No	(*) Inoculation SPF embryos and HA	Avian Laringotracheitis
89	Laying hens	E. Ríos and Bs Aires	*	*	No	Avian Salmonellosis
7	Broilers	E. Ríos	*	No	(*) Inoculation and HA	Infectious Bronchitis
4	Laying hens	Bs. Aires	*	No	(*) Inoculation and HA	Avian Laringotracheitis
2	Sta Fé	Bs Aires	*	No	(*) Inoculation SPF embryos and HA	Mycoplasma Sinoviae
3	Broilers	E. Ríos	*	*	(*) Inoculation SPF embryos and HA	Respiratory Complex
3	Broilers	E. Ríos	*	*	(*) Inoculation SPF embryos and HA	CRD (MG)
2	Broilers	E. Ríos		*	(*) Inoculation SPF embryos and HA	Colibacillosis
1	Stocking chick	E. Ríos	*	No	(*) Inoculation SPF embryos	Otitis
11	Pigeons	Different areas	*	No	(*) Inoculation SPF embryos and HA	Food Intoxication
4	Parrots	Bs. Aires	*	*	No	Psittacosis
2	Guinea fowl	Bs. Aires	*	*	No	Salmonellosis
2	Canaries	Bs. Aires		*	No	Salmonellosis
Total = 346						

According to this data, in 83 (*) cases out of 346 diagnosis, a differential diagnosis with NCD has been carried out. There is no information stated in this table on other diagnosis as

parasitic diseases, nutritional problems, deficiencies or unspecific bacterial problems because there is deemed not to be necessary to be described in this report.

2) As it was informed in the visit of September-October, 2000, the procedures enforced by SENASA for diagnosis of NCD on embryos are:

- a) If a laboratory from the Network isolates a haemagglutinating virus (HA) in embryos, it must immediately report to the SENASA's Central Laboratory in order that the Avian Department staff can take samples which must be moved in appropriate biosafety conditions.
- b) At the Central Laboratory, the rapid HA test and titre is carried out again. Subsequently, inhibition with anti- NC serum to discard the AI virus is performed. Then, the ICPI test is carried out in one-day-old chickens. Likewise, INTA, Castelar is informed in order they can take material to be characterized by RT- PCR.
- c) At the Central Laboratory, INTA's staff take viral RNA to subsequently carry out RT-PCR at their own laboratories, preventing risks of viral escape during its transfer.

3) Controls for verification and ratification of the diagnostic system by isolation and serological tests.

Once per year, there is a complete run in SPF or susceptible embryos using 2 vaccine strains of NC (B1 and La Sota) as positive controls, using also a negative control.

Sensitivity of the isolation technique in hen's embryos: 90 %

Specificity of the isolation technique in hen's embryos: 98 %

Sensitivity of the HI test: 98%

Specificity of the HI test: 90%

Twice per year or when the origin of embryos changes, a batch is incubated until birth. One-day-old chickens are bled and slaughtered for the HI test which must be negative.

- Interlaboratories tests

Twice per year, four blind samples of allantoic fluid are sent to each laboratory of the Network. They must process the samples by inoculation of hen's SPF embryos and HA test and they must report their results and embryo mortality within a 15-30 day- period. By these means, the laboratory's continuance in the Network is assessed.

Before sending the samples to each laboratory, they are submitted to INTA Castelar for identification by PCR techniques.

These interlaboratories tests check the capabilities of the Network laboratory for the isolation of NC virus.

- 4) As to the question: if NCD receives the same level of attention that before the present situation of FMD, we could say that, as the epidemiological surveillance activities in farms, controls in movement in all roads of the country, inspection at establishments, etc. have been intensified, the surveillance of Newcastle has been indirectly favored since the same officials are responsible for reporting both diseases.
- 5) We do not have regular reports of foci, as it is the case of FMD, because we do not have foci of NCD. Argentina reports to the OIE on this news, weekly and monthly, as well as in its Website. The item pertinent to Newcastle states "neither foci nor suspects of the Newcastle disease are registered".

ANIMAL AND ANIMAL PRODUCTS MOVEMENT CONTROL FROM HIGH RISK REGIONS.

1) Argentina has import regulations and requirements that are basically the following:

Countries exporting birds or poultry products to Argentina must answer a questionnaire related to Newcastle disease and Avian Influenza before being authorized (SENASA Rule #446/97). Countries or regions, in which Highly Pathogen Avian Influenza is present, are not authorized to export live birds nor poultry products to Argentina. From the evaluation of said questionnaire, from further data if required or even from the visit of SENASA's officials to the country interested in exporting, several alternatives may arise:

For poultry products (SENASA Rule 46/2000)

- a) Non authorized country (Eg: China, Mexico)
- b) Country or region authorized with animal health certificate model B (an analysis is included to discard the presence of Newcastle disease virus). (Eg.: Paraguay and part of Brazil)
- c) Country or region authorized with model A of certificate that does not include the analysis stated in item 2. (Eg.: Chile, some States of Brazil).

For live birds (non- industrial and ornamental)

- a) Non authorized country (Eg: China, Paraguay, India, Mexico, etc.)
- b) Country authorized with compulsory quarantine at a Quarantine Station authorized by SENASA, during which tests pertinent to NCD and AI and others are carried out (Salmonellosis, Mycoplasmosis). (All other countries)

For one-day-old chicken or fertile eggs

- a) Non authorized country
- b) Country authorized with quarantine at the farm of destination. In addition, when the birds enter the country, they are sampled to control Mycoplasma and Salmonella since these diseases are under official control sanitary programs.

2) There are new standards and regulations concerning imports of one-day-old chicks and fertile eggs for incubation that are related and targeted to the flock's sanitary protection:

Rule 203/2001 sets forth the compulsory slaughter of one-day- old chicks and/or fertile eggs for incubation that are imported and are positive to contamination with Mycoplasma (MG and MS) or Salmonella (*S. enteritidis*, *S. gallinarum-pullorum*, *S.paratific* and *S.eidelberg*).

Rule 498/2001 bans the import of one-day-old chicks or fertile eggs for incubation of commercial hybrid (broilers for fattening and/or commercial laying hens). It authorizes only imports of one-day-old breeding chicken in grandmother and parents line.

Currently, live birds imports are limited to one-day-old chicks or eggs for incubation coming from countries exporting genetic such as the USA, France, Holland and Brazil. As

to poultry products, low quantities of chicken meat and egg by-products (processed and powdered) are imported from Brazil and sporadically from Chile.