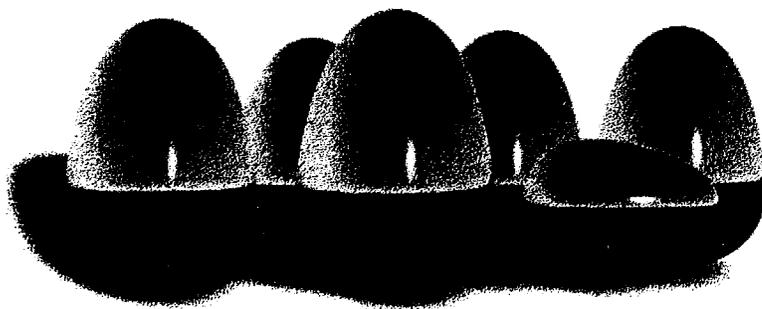




Comisión Nacional de Sanidad Agropecuaria
Dirección General de Salud Animal



**REQUEST FOR RECOGNITION OF THE STATE OF
YUCATAN AS A RISK-CLASSIFIED REGION FOR
EXPORTATION OF POULTRY PRODUCTS TO
THE UNITED STATES OF AMERICA**



MEXICO/AUGUST, 1998

REQUEST FOR RECOGNITION OF THE STATE OF YUCATAN AS A RISK-CLASSIFIED REGION FOR EXPORTATION OF POULTRY PRODUCTS TO THE UNITED STATES OF AMERICA

APHIS Policy Regarding Importation of Animals and Animal Products were published in the Federal Register on October 28, 1997. In these policies it is recognized that there are identifiable, measurable degrees of risk in animals and animal products, related to geographic factors, ecosystems, epidemiological surveillance and the effectiveness of control programs, more than political boundaries.

The publication gave a list of the factors to be considered in making a risk assessment for the importation of animals and animal products. Based on that, this document provides information regarding the status of **velogenic Newcastle disease (VND) and avian salmonellosis (AS)** in the State of Yucatan.

TYPE OF PRODUCTS TO BE EXPORTED:

- **Chicken parts or pieces**
- **Boned breasts**
- **Preformed products, like nuggets and burgers**

I. AUTHORITY, ORGANIZATION AND INFRASTRUCTURE OF VETERINARY SERVICES

Federal and state animal health authorities are governed by the following laws and official Mexican standards for poultry diseases:

Federal Authorities

Federal Law on Metrology and Standardization, Chapter III, Articles 52 to 57 (June 30, 1992), and the decree amending, adding and deleting various provisions of the Federal Law on Metrology and Standardization (Federal Official Gazette, May 20, 1997).

Federal Animal Health Law, Chapter III, Article 4 (June 18, 1993).

Official Mexican Standard NOM-013-Z00-1994, National Velogenic Newcastle Disease Campaign.

Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign.

Official Mexican Standard NOM-044-ZOO-1993, National Avian Influenza Campaign.

Official Mexican Standard NOM-046-ZOO-1996, National Epidemiological Surveillance System.

Official Mexican Standard NOM-012-ZOO-1995, Specifications for regulation of chemical, pharmaceutical, biologic and food products for use in animals or to be consumed by them.

Official Mexican Standard NOM-018-ZOO-1995, Veterinarians accredited as verification units authorized to provide official services in the field of animal health.

Official Mexican Standard NOM-022-ZOO-1995, Animal health characteristics and specifications for facilities, equipment and the operation of establishments that market chemical, pharmaceutical, biological and food products for use in animals or to be consumed by them.

Official Mexican Standard NOM-047-ZOO-1995, Minimum requirements for vaccines, bacterins and antigens used in the prevention and control of avian salmonellosis.

Official Mexican Standard NOM-052-ZOO-1995, Minimum requirements for vaccines used in the prevention and control of Newcastle disease.

Official Mexican Standard NOM-055-ZOO-1995, Minimum Requirements for Production of Vaccines used in Avian Influenza Prevention, Control and Eradication.

Official Mexican Standard NOM-003-ZOO-1994, Operational criteria for approved laboratories in tests in the zoosanitary field.

Decree activating the National Animal Health Emergency Mechanism, under the terms of Article 35 of the Federal Animal Health Law, published in the Federal Official Gazette on January 23, 1995.

State Authorities

Federal Law on Metrology and Standardization, Chapter III, Articles 52 to 57 (June 30, 1992), and the decree amending, adding and deleting various provisions of the Federal Law on Metrology and Standardization (Federal Official Gazette, May 20, 1997).

Federal Animal Health Law, Chapter III, Article 4 (June 18, 1993).

Yucatan State Livestock Law, Chapter II, Article 5 (April 23, 1993).

I.- Animal Health Infrastructure

a) Federal Structure

There is a State Delegation of the Secretariat of Agriculture and Rural Development (SAGAR) in Yucatan, as well as a Sub-delegation for Livestock. The organization chart of this structure is shown in Appendix 1.

Veterinarian Staff

Official Veterinarians.- There are 10 official veterinarians in the 4 Rural Development Districts (DDR) in the state of Yucatan, on the SAGAR staff.

Rural Development District	Veterinarians
01.- Mérida	5
02.- Ticul	1
03.- Tizimin	3
04.- Valladolid	1
Total	10

In addition there are 10 Veterinarians who work in the Sub-delegation for Livestock, and an equal number assigned to the phytozoosanitary inspection posts.

Approved Veterinarians.- There is a total of 246 veterinarians approved for work in the area of Newcastle Disease and Avian Salmonellosis, distributed throughout the most important poultry production areas in the country. In Yucatan there are 4 approved veterinarians for these diseases.

There are also 2 phytozoosanitary inspection offices in Yucatan for international control of movements of animals and animal products and byproducts, supervised by official inspectors and veterinarians. There are 10 inspection posts in the state staffed by qualified SAGAR personnel.

There are Federal Inspection Model (TIF) plants in the plants for the slaughter and processing of animals and animal products, which meet international requirements and with official veterinarians on the premises.

There are 4 such Federal Inspection Model (TIF) plants in the state, plus 31 private and municipal slaughterhouses, of which 4 belong to the poultry sector and only one is a TIF plant.

Listed below are the TIF establishments in the state:

THE PLANT	TYPE OF PLANT
A-97	Poultry slaughter
97-B	Sausage packing plant
152	Swine slaughter
170	Bovine slaughter and boning

b) State Structure

The Livestock Protection and Promotion Committee (CFPP) plays a very significant role in the state's animal health infrastructure. Acting through the Rural Development Secretariat and subcommittees and in coordination with the Federal Government and the Agriculture and Rural Development Secretariat's State Delegation, the Committee carries out actions to further the success of animal health campaigns of regional interest (including the states of Campeche and Quintana Roo). The CFPP and the Rural Development's Secretariat organization charts are shown in Appendixes 2 and 3.

TECHNICAL AND PROFESSIONAL SCHOOLS

There is a School of Veterinarian Medicine and Animal Husbandry in the state of Yucatan, 2 Agricultural Technical Institutes and 6 Agricultural Technical Schools.

II.- TYPE AND EXTENT OF SURVEILLANCE IN THE REGION

Active Surveillance

An epidemiological survey was carried out in 1995, and an inspection of breeder and grandparent flocks, as established by Item 8, NOM 013-ZOO-1994, National Velogenic Newcastle Disease Campaign, and Item 9 of Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign.

The number of birds sampled for each kind of production type is listed in the table below:

Production Type	Number of Samples
Broilers	2,987
Layers	1,453
Backyard units and fighting cocks	215
Breeders and grandparents *	750

*10 birds were sampled out of each lot, for a total of 750 birds processed.

Epidemiological surveillance sampling for these avian diseases was carried out in Yucatan in 1996, processing 1,231 samples from backyard units, 2050 from poultry slaughterhouses, and 2,205 samples from 189 technified farms. All samples were negative.

In 1997 the samples for epidemiological surveillance of these diseases were taken according to the following scheme:

**Statistical Sample Size for Technified Poultry Farms in the State of Yucatan
1997
Newcastle Disease and Avian Salmonellosis**

	Municipality	Total No. of Farms	Current Population	%	Total No. of Samples per Municipality
1	Acanceh	15	1,888,298	16.70	344
2	Baca	7	464,258	4.10	85
3	Cacalchen	2	31,700	0.28	6
4	Chicxulub	2	324,000	2.86	59
5	Chochola	11	533,552	4.72	97
6	Conkal	9	142,429	1.26	26
7	Dzemul	1	46,000	0.41	8
8	Halachó	1	1	0.00	1
9	Homun	2	34,184	0.30	6
10	Hunucma	22	872,616	7.72	159
11	Izamal	1	1	0.00	1
12	Kanasin	7	298,754	2.64	54
13	Kinchil	4	53,982	0.48	10
14	Komchen	1	2,764	0.02	1
15	Maxcanu	4	395,889	3.50	72
16	Merida	26	547,792	4.84	100
17	Mocochoa	3	86,064	0.76	16
18	Motul	5	451,500	3.99	82
19	Opichen	1	1	0.00	1
20	Progreso	3	182,254	1.61	33
21	Sacalum	1	16,708	0.15	3
22	Samahil	14	1,222,156	10.81	223
23	Seye	1	20,000	0.18	4
24	Tahmek	1	39,000	0.34	7
25	Tecoh	2	51,038	0.45	9
26	Tetiz	10	1,239,219	10.96	226
27	Timucuy	1	1	0.00	1
28	Tixkokob	2	370,800	3.28	68
29	Tixpeual	1	1	0.00	1
30	Ucu	6	401,268	3.55	73
31	Uman	22	1,503,198	13.29	274
32	Xocchel	1	73,000	0.65	13
33	Yobain	1	17,500	0.15	3
	Total	190	11,309,928	100	2,066

a) The Kish & Leslie formula (Survey Sampling, John Wiley & Sons NY, 1985) was used, considering a 99% level and an expected prevalence of 0.5%, stratified by municipalities.

b) 100% of all technified farms were sampled.

* Empty farms. - If repopulated, a sample of 29 birds had to be taken from each farm.

**Statistical Sample Size for Backyard Units in the State of Yucatan
1997
Newcastle Disease and Avian Salmonellosis**

Municipality	Backyard Population	%	Total No. of Units	%	Units to be Sampled	Samples per Units	Total No. of Samples per Municipality
Mérida	551,442	57.4	30,636	54.0	161	5	807
Ticul	190,152	19.8	11,884	20.9	63	5	313
Tizimin	142,614	14.9	9,508	16.7	50	5	250
Valladolid	76,061	7.9	4,754	8.4	25	5	125
TOTAL	960,269	100	56,782	100	299		1,495

a) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for backyard units, considering a 95% confidence level and an expected prevalence of 1%.

b) Five birds were sampled in each backyard unit, or 100% if there were fewer than five.

c) Sampling was random, regardless of whether the birds were confined or free roaming.

During this survey samples were taken from 2,173 birds from 106 technified farms in operation. In addition, 1,629 samples were taken from 328 backyard units and 1,323 from TIF and/or municipal slaughterhouses. All samples were found to be negative. Listed below is the number of samples taken from backyard units in 1997:

Rural Development District	No. of Units Samples	No. of Birds Sampled
Mérida	185	928
Ticul	59	280
Tizimin	51	253
Valladolid	33	168
Total	328	1,629

The statistical sampling survey of technified farms and backyard units in 1998 is being carried out as shown in the tables below:

**Statistical Sample Size for Technified Poultry Farms in the State of Yucatan
1998
Newcastle Disease and Avian Salmonellosis**

	MUNICIPALITY	TOTAL NO. OF FARMS	CURRENT POPULATION	%	TOTAL NO. OF SAMPLES PER MUNICIPALITY
1	Acanceh	16	1,676,635	13.43	464
2	Baca	7	683,436	5.47	203
3	Cacalchen	2	30,000	0.24	58
4	Chicxulub	2	325,000	2.60	58
5	Chochola	11	558,550	4.47	319
6	Conkal	8	140,962	1.13	232
7	Dzemul	1	46,000	0.37	29
8	Halacho	1	N/D	0.00	29
9	Homun	2	37,170	0.30	58
10	Hunucma	22	763,897	6.12	638
11	Izamal	1	N/D	0.00	29
12	Kanasin	7	782,000	6.26	203
13	Kinchil	4	261,198	2.09	116
14	Komchen	2	15,500	0.12	58
15	Maxcanu	4	362,501	2.90	116
16	Merida	32	532,676	4.27	928
17	Mococho	4	106,064	0.85	116
18	Motul	5	433,500	3.47	145
19	Opichen	1	N/D	0.00	29
20	Progreso	3	250,000	2.00	87
21	Sacalum	2	25,600	0.21	58
22	Samahil	17	1,401,791	11.23	493
23	Seve	1	29,000	0.23	29
24	Tahmek	1	39,000	0.31	29
25	Tecoh	3	40,091	0.32	87
26	Tetiz	10	1,556,176	12.46	290
27	Timucuy	1	N/D	0.00	29
28	Tixkokob	3	370,800	2.97	87
29	Tixpeual	1	N/D	0.00	29
30	Ucu	6	362,868	2.91	174
31	Uman	25	1,587,198	12.71	725
32	Xocchel	1	60,000	0.48	29
33	Yobain	1	100,000	0.08	29
	TOTAL	207	12'487,613	100	6,003

- a) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for technified farms, considering a 95% confidence level and an expected prevalence of 10%.
- b) 100% of the technified farms will be sampled.
- c) A minimum of 29 samples will be taken from every technified farm.
- N/D: No updated data.

**Statistical Sample Size for Backyard Units in the State of Yucatan
1998**

Newcastle Disease and Avian Salmonellosis

MUNICIPALITY	BACKYARD POPULATION	%	TOTAL NO. OF UNITS	%	UNITS TO BE SAMPLED	SAMPLES PER UNIT	TOTAL NO. OF SAMPLES PER MUNICIPALITY
Mérida	551,442	57.4	30,636	54.0	161	5	807
Ticul	190,152	19.8	11,884	20.9	63	5	313
Tizimin	142,614	14.9	9,508	16.7	50	5	250
Valladolid	76,061	7.9	4,754	8.4	25	5	125
TOTAL	960,269	100	56,782	100	299		1,495

a) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for technified farms, considering a 95% confidence level and an expected prevalence of 1%.

b) Five birds from each backyard unit are being sampled, or 100% if there are fewer than five.

c) The birds are sampled randomly, regardless of whether the birds are confined or roaming.

As to the surveys carried out up to June, 1998, 9 technified farms have been surveyed taking 1,100 samples, and 50 backyard units with 259 samples. The latter are detailed by DDR (Rural Development District) in the table below:

DDR	No. of Samples	No. of Units Sampled
Mérida	149	29
Ticul	66	12
Tizimin	28	5
Valladolid	16	4
Total	259	50

Passive Surveillance

By law, there are several diseases in Mexico that are subject to mandatory immediate notification (Resolution with list of exotic pests and diseases for the United Mexican States, published on September 21, 1994, in the Federal Gazette), including those considered exotic in Mexico, and those that are enzootic diseases subject to mandatory immediate and monthly reporting.

Moreover, Items 1 and 7.1.1 of Official Mexican Standard NOM-046-ZOO-1995, National Epizootiological Surveillance System, define the persons and agencies that are supposed to notify the occurrence of animal diseases. These items also indicate the mechanisms to be used and the frequency with which reports should be sent.

After the zoosanitary information is received by the central authorities, the data is processed and analyzed by the National Epidemiological Surveillance System (SIVE) and published in the monthly bulletin. In the same way, weekly, monthly, and annual reports regarding diseases on the OIE A, B and C Lists are sent to the OIE and to other international organizations (PAHO, IICA and OIRSA).

III.- DIAGNOSTIC LABORATORY CAPACITY

There are five animal health diagnosis laboratories in the state of Yucatán, of which 3 are approved for VND and AS testing, as shown in the table below:

LABORATORY	AREA OF INFLUENCE	DIAGNOSIS
Tizimin Animal Health Center	Adjacent municipalities	Brucellosis serology
FMVZ-UAY Diagnostic Laboratory (University)	Adjacent Municipalities	Elementary tests, such as necropsies, histopathology, complement fixation, spermatobioscopy, serology, bacteriology, coproparasitology, mycology, etc.
Merida Central Regional Laboratory	Yucatan, Campeche and Quintana Roo	Approved for classical swine fever, Aujeszky disease, VND and AS . Elementary tests, like bacteriology, serology, coproparasitology, mycology, etc.
Sanjor Diagnosis and Quality Control Laboratory	Yucatan, Campeche and Quintana Roo	VND and AS .
Fernandez Poultry Diagnosis Laboratory	Yucatán, Campeche and Quintana Roo	VND and AS

The samples collected from the official survey throughout the state for **VND** and **AS** diagnosis are sent to the Regional Central laboratory in Merida, where they are analyzed.

The United States – Mexico Commission for Prevention of Foot and Mouth Disease and other Exotic Animal Diseases (CPA) high security laboratory is the reference laboratory for surveillance activities in disease-free zones, and if necessary, like the CENASA, it can confirm the diagnoses of other laboratories.

All laboratories approved in the country for diagnosis of Newcastle disease and avian salmonellosis notify the suspicion and/or confirmation of an outbreak and are part of the National Epidemiological Surveillance System. These laboratories are listed below:

LABORATORY	LOCATION
Patología Diagnóstica del Centro Agropecuario UAAGS ⁽¹⁾	Aguascalientes, Aguascalientes
Laboratorio de Diagnóstico Villaflores	Chiapas, Chiapas
Laboratorio de Patología Aviar	Torreón, Coahuila
Diagnósticos Clínicos Veterinarios	Distrito Federal
Lab. del Depto. Prod. Animal Aves. FMVZ, UNAM	Cd. Universitaria, D.F.
Laboratorio de Biología de Nochistongo	Gómez Palacio, Durango
Laboratorio Provemex Avícola, S.A. de C.V.	Gómez Palacio, Durango
Laboratorio SPR Productores Avipecuarios	Chalco, Edo. de México
Laboratorio de Patología Bachoco, S.A. de C.V.	Celaya, Guanajuato
Laboratorio Central Regional de Tlaquepaque ⁽¹⁾	Tlaquepaque, Jalisco
Laboratorio de Diagnóstico Sanfandila, S.A. de C.V.	Lagos de Moreno, Jalisco
Laboratorio de Investigación Pecuaria y Patología, S.A. de C.V.	Tepatitlán, Jalisco
Biofarma División Diagnósticos	San Nicolás de los Garza, N.L.
Laboratorio Central Regional de Monterrey	Guadalupe, Nuevo León
Laboratorio de Control de Calidad y Patología Aviar	Salinas Victoria, Nuevo León
Laboratorio de Patología Aviar	Monterrey, Nuevo León
Biotecnología Vet. de Puebla, S.A. de C.V.	Tehuacán, Puebla
Laboratorio de Diagnóstico Especializado	Tehuacán, Puebla
Laboratorio de Investigación Aplicada	Tehuacán, Puebla
Laboratorio de Patología Animal de Calamanda	Calamanda, Querétaro
Centro de Salud Animal ⁽¹⁾	San Luis Potosí, S.L.P.
Pecuarius Laboratorios S.A. de C.V.	Ciudad Obregón, Sonora
Lab. Diagnóstico de la FMVZ. UAT ⁽¹⁾	Ciudad Victoria, Tamaulipas
Laboratorio Cordobés	Córdoba, Veracruz
Laboratorio Central Regional de Mérida	Mérida, Yucatán
Laboratorio de Diagnóstico y Control de Calidad Sanjor	Mérida, Yucatán
Laboratorio de Diagnóstico Avícola Fernández	Mérida, Yucatán

(1) Approved only for Avian Salmonellosis.

IV.- STATUS OF THE DISEASE

The eradication phase of VND and AS was declared in Yucatan on January 6, 1996, and the state was officially declared free on July 14, 1995.

The last reported Newcastle disease focus took place in May, 1984, on a broiler farm in the municipality of Conkal, Yucatan.

After being officially free of VND and AS, an ongoing program of active and passive surveillance has been maintained in the state. This program identified the presence of *S. gallinarum* in pheasants and broilers in the municipalities of Sotuta and Merida, respectively.

In both cases the farms were quarantined and the birds killed. The producers were compensated and cleaning and disinfecting took place under official supervision. During

these operations a sampling survey was conducted of the focal and perifocal area, without finding the bacteria.

At present epidemiological sampling surveys are carried out of technified farms and backyard flocks on a permanent and obligatory basis.

V.- STATUS OF VACCINATION IN THE REGION

Vaccination for VND is generalized throughout the nation, and it is done using emulsified freeze dried vaccine, as indicated in Item 9, NOM-013-ZOO-1994, National Velogenic Newcastle Disease Campaign.

In the case of AS, since Yucatan is free of this disease, the application of vaccines and bacterines is forbidden for any kind of birds (Item 10.4, Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign).

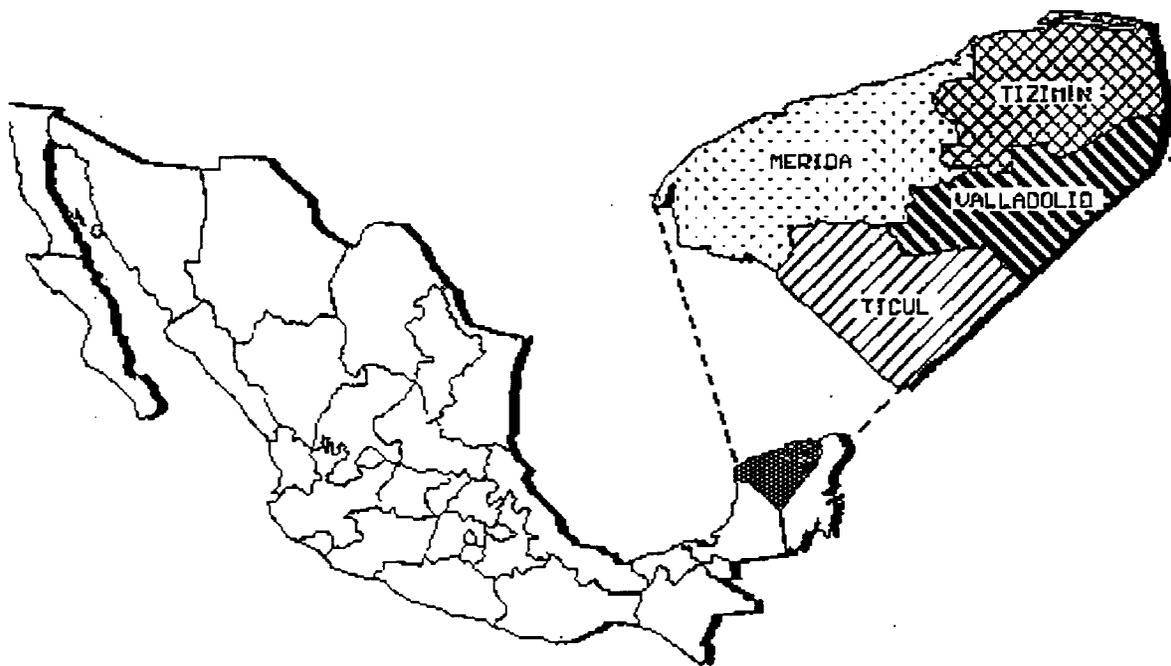
VI.- STATUS OF THE DISEASE IN ADJACENT REGIONS

Campeche and Quintana Roo have been free of both diseases since December 1997. As mentioned in Section V, VND vaccination is carried out throughout the country. No vaccination for AS is done in the states of Campeche and Quintana Roo because they are free of this disease (Item 10.2, Standard NOM-005-ZOO-1992, National Avian Salmonellosis Campaign).

VII.- PHYSICAL SEPARATION OR OTHER BARRIERS BETWEEN YUCATAN AND REGIONS AT HIGHER RISK

The state of Yucatan is bounded on the North and West by the Gulf of Mexico, on the East and South by the state of Quintana Roo and on the Southwest by the state of Campeche. It is situated between 19° and 21°38', latitude N, and 8°26' and 11°32' longitude East. There is a great natural barrier that separates the state from other areas, the Gulf of Mexico. The state covers an area of 38,508 square kilometers.

YUCATAN



There is also a man made physical barrier - the National Agricultural Quarantine System - which comprises a great many check points to control the movements of animals and animal products.

The National Agricultural Health Commission is made up of the General Animal Health Directorate, the General Plant Health Directorate and the General Directorate of Phytozoosanitary Inspection at Ports, Airports and Borders. The substantive functions of the first two are normative, and the third is operational. The National Agricultural Quarantine System combines the normative and operational functions of the three directorates, as a strategic base for the implementation of quarantine services, with the aim of protecting the country's agriculture, animal and forestry resources. These services focus on preventing the entry of exotic diseases and pests, assisting in the prevention and the control and eradication of such diseases, if they should occur; supporting phytozoosanitary campaigns at the national level, and maintaining zones that are free of phytozoosanitary pests and diseases.

The National Agricultural Quarantine System includes both the Foreign Quarantine and the Domestic Quarantine services. The Foreign Quarantine service includes all activities directed to prevent the entry of diseases into the country, while the Domestic Quarantine

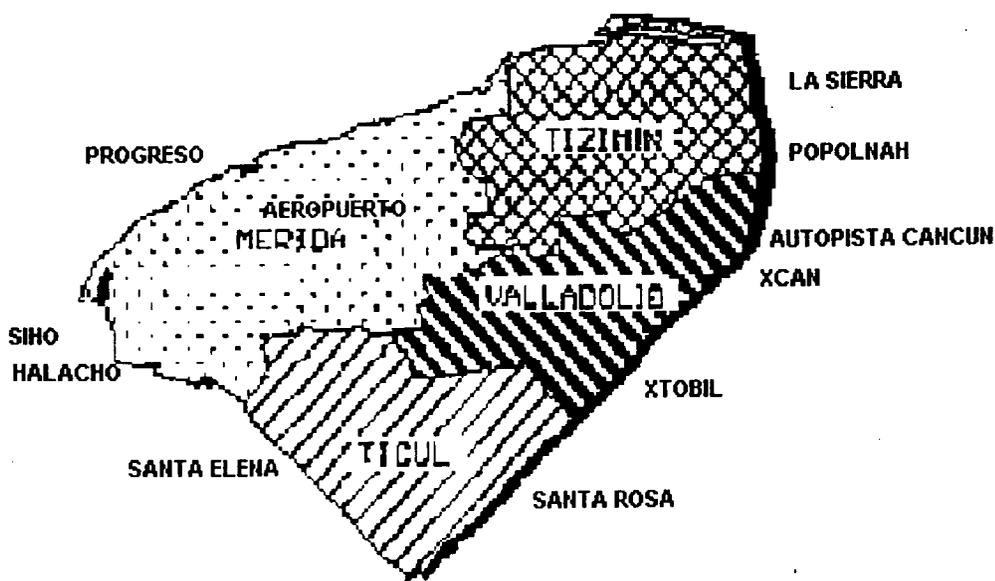
service is in charge of activities to prevent diseases in the country from spreading from affected areas to disease-free areas.

Domestic Quarantine.- This system is made up of internal check points to inspect animals and agricultural products that are being transported, and also to verify that official standards are complied with and thus to guarantee that such shipments do not involve zoonotic risks.

The inspection posts that control inbound and outbound movements of animals and agricultural products and byproducts in the state of Yucatan are the following:

YUCATAN		
NAME	LOCATION	PERSONNEL
Halachó	Km. 65. Mérida-Campeche Hwy.	16
Santa Elena	Km. 29. Tikul- Hopelchen Hwy.	4
Santa Rosa	Km. 190. Mérida-Carrillo Puerto Hwy.	5
Xtobil	Km. 45. Valladolid- Carrillo Puerto Hwy.	5
La Sierra	Km. 47. Tizimin-Kantunilkin Hwy.	4
Popolnah	Km. 32. Kantunilkin- El Ideal Hwy.	5
Siho	Km. 9 West of Halachó	3
Xcan	Km. 70. Valladolid-Cancún Hwy.	6
Autopista	Km. 217. Mérida-Cancún Hwy.	4
Uman	Km. 14.5. Mérida- Uman Hwy.	3

ANIMAL MOVEMENT CONTROL POINTS IN YUCATAN



The system provides greater protection for the regions that are disease-free by means of the regional quarantine cordons. These cordons are made up of 46 facilities of various kinds, including quarantine stations and posts, located around regions made up of several states that share similar phytozoosanitary characteristics, which because of their geographical location, means of communication and agricultural traffic have put in place efficient control mechanisms over the movement of animals and agricultural products and byproducts.

The quarantine cordon that protects the states of the Peninsula, including Yucatan, is the **Peninsula – Tabasco Quarantine Cordon** and is made up of the following check points:

PENINSULA – TABASCO REGION QUARANTINE CORDON

NAME	LOCATION
Tonalá	km. 132. VHSA-Coatzacoalcos Fed. Hwy. 180
Francisco Rueda	km. 90. Huimanguillo- Chiapas State Hwy.
San Manuel	Poblado San Manuel - Chimea, Chis. Road
Amacohite	km. 40. Huimanguillo – Malpaso, Chis. Fed. Hwy. 187
Azufre	km. 80. VHSA-Pichucalco, Chis. Hwy. 195
Boca de Limón	km. 30. VHSA- Reforma State Hwy.
Tulija	km. 79. Mpio. Macuspana Fed. Hwy. 186
Corralillo	km. 100. Fed. Hwy. 186. Mpio. Jonuta Junction
Libertad	km. 4. Zapata-Tenosique Road
Gregorio Méndez	km. 43. E. Zapata – Tenosique Road

Foreign Quarantine.- This type of quarantine is also considered the first line of the sanitary defense barriers and its objective is to take actions to prevent the entry of pests and diseases. This is done by means of inspectors in sea ports, airports and borders. There are the following inspection stations in the state of Yucatan:

Inspection Station	Border	Airport	Sea Port
Mérida		*	
Progreso			*

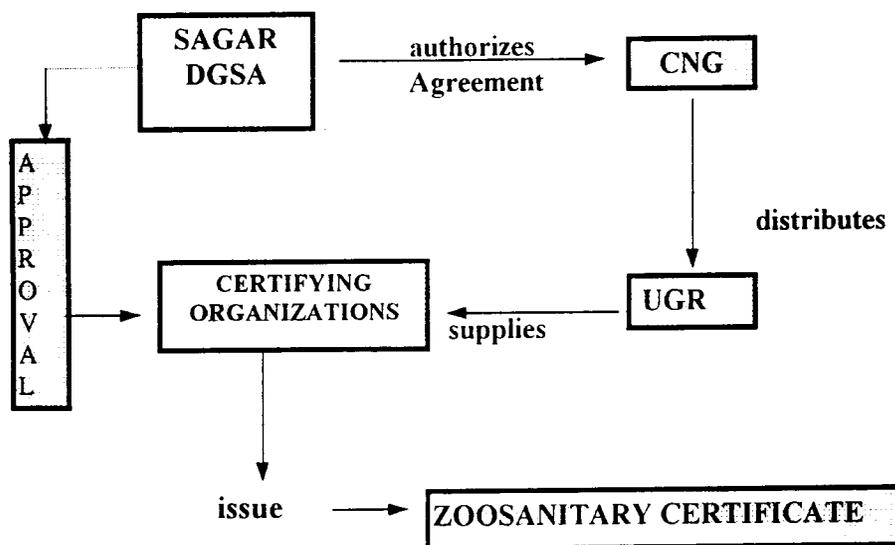
VIII.- CONTROL OF MOVEMENTS OF ANIMALS AND ANIMAL PRODUCTS FROM HIGHER RISK REGIONS

Movement of birds and bird products and byproducts that enter these states from zones in the control and eradication phases are subject to the restrictions indicated in Item 12, NOM-013-ZOO-1994, National Velogenic Newcastle Disease Campaign; Item 13, NOM-005-ZOO-1993, National Avian Salmonellosis Campaign; and Item 15, NOM-044-ZOO-1995, National Avian Influenza Campaign.

SAGAR, represented by the General Animal Health Directorate (DGSA), through an agreement with the National Livestock Producers Confederation (CNG), has authorized the

distribution of zoosanitary certificates to the East Yucatan Regional Livestock Producers Union and the Yucatan Regional Livestock Producers Union (UGR), which in turn supply these certificates to certification organizations approved by SAGAR, which generally are the Local Livestock Producers Associations (AGL) and the Ejido Livestock Associations (AGE): The latter then issue the zoosanitary certificate control of animal and animal products and by products shipments. These certificates must always be signed by a responsible veterinarian who may be an official veterinarian or one approved for animal movement control purposes. The above is contained in Chapter V of the Federal Animal Health Act.

MANAGEMENT AND CONTROL OF THE ZOOSANITARY CERTIFICATE



Movement Records

All movements are conducted according to the rules and standards of the avian influenza, Newcastle disease and avian salmonellosis campaigns.

The physical and documentary inspection is done at various points where movements are controlled. In the period between 1996 and 1997 the following movements of birds and bird products were reported in the state of Yucatan.

ENTRY OF LIVE ANIMALS

PERIOD	1996	1997
January	194,050	29,683
February	142,485	77,040
March	137,130	15,180
April	217,474	217,477
May	87,130	81,460
June	97,903	235,812
July	87,311	88,870
August	107,511	123,924
September	110,970	71,241
October	57,783	181,446
November	13,366	94,577
December	118,791	109,390
TOTAL	1'371,904	1'326,100

Source: Yucatan Livestock Protection and Promotion Committee

OUTBOUND MOVEMENTS, LIVE BIRDS

PERIOD	1996	1997
January	1'357,421	836,437
February	1'300,324	965,155
March	1'232,576	726,759
April	1'233,261	1'233,261
May	1'231,027	1'193,301
June	1'017,204	1'119,969
July	1'172,865	1'119,269
August	941,387	963,595
September	949,208	1'940,786
October	1'005,745	1'225,823
November	812,755	1'032,261
December	987,719	1'121,955
TOTAL	13'241,492	13'478,571

Source: Yucatan Livestock Protection and Promotion Committee

Outbound Movements of Poultry Products; 1996-1997

Period	1996			1997			1997			1997			
	Meat (kg).		Turkey	Sausages (kg).		Turkey	Meat (kg).		Turkey	Sausages (kg).		Turkey	Eggs (kg).
	Chicken	Turkey		Chicken	Turkey		Chicken	Turkey		Chicken	Turkey		
January	573,318.00	17,349.00	4,937.00	4,474.00	2,957,297.00	9,802.00	594,254.00	9,802.00	830.00	25,554.00	2,779,602.00	2,779,602.00	
February	1,560,398.00	224.00	20,264.00	5,671.00	2,936,391.00	300.00	816,682.00	300.00	2,690.00	23,766.00	2,599,975.00	2,599,975.00	
March	1,815,602.00	7,636.00	26,761.00	17,232.00	3,206,667.00	1,868.00	187,954.00	1,868.00	1,818.00	27,520.00	2,956,933.00	2,956,933.00	
April	1,143,695.00	5,288.00	946.00	34,516.00	3,320,432.00	5,288.00	1,193,695.00	5,288.00	946.00	34,516.00	3,320,432.00	3,320,432.00	
May	2,358,029.00	7,529.00	5,443.00	9,486.00	3,413,503.00	6,517.00	1,086,962.00	6,517.00	32,960.00	21,278.00	3,535,129.00	3,535,129.00	
June	2,229,608.00	5,684.00	2,576.00	11,731.00	3,132,560.00	14,478.00	827,086.00	14,478.00	3,140.00	30,170.00	3,517,924.00	3,517,924.00	
July	982,599.00	4,058.00	327,712.00	11,972.00	2,956,208.00	21,451.00	937,750.00	21,451.00	3,457.00	39,789.00	3,463,160.00	3,463,160.00	
August	2,066,059.00	22,339.00	10,571.00	17,814.00	3,029,484.00	1,976.00	907,729.00	1,976.00	2,410.00	31,686.00	3,070,369.00	3,070,369.00	
September	1,778,178.00	8,663.00	1,342.00	12,291.00	2,670,713.00	34,814.00	990,574.00	34,814.00	1,000.00	80,455.00	3,235,538.00	3,235,538.00	
October	1,973,704.00	8,813.00	637.00	17,352.00	2,426,218.00	10,721.00	929,772.00	10,721.00	6,609.00	56,373.00	3,529,226.00	3,529,226.00	
November	1,773,498.00	26,286.00	636.00	18,160.00	1,826,189.00	38,948.00	709,053.00	38,948.00	891.00	66,016.00	3,491,032.00	3,491,032.00	
December	2,048,356.00	152,165.00	2,380.00	51,657.00	2,660,055.00	215,596.00	1,157,997.00	215,596.00	2,452.00	73,858.00	3,500,294.00	3,500,294.00	
T O T A L	20,303,044.00	266,034.00	404,205.00	212,356.00	34,535,717.00	361,759.00	10,339,508.00	361,759.00	59,203.00	510,981.00	38,999,614.00	38,999,614.00	

Source: Yucatan Livestock Protection and Promotion Committee

Importation of Birds and Poultry Products

Period	1996						1997					
	Sausages (kg).	Birds Breeders (heads)	Eggs Fertile (kg)	Turkeys (heads)	Others		Sausages (kg)	Birds Breeders (heads)	Eggs Fertile (kg).	Turkeys (heads)	Others	
					No.	Type of bird					No.	Type of bird
January	0	6,000	0	11,400	* 36	Fighting cocks	296	0	8,000	* 31	Fighting Cocks	
February	0	8,925	0	4,400	400	Ducks	0	0	20,500			
March	0	0	0	6,700			0	5,505	16,150			
April	629	5,505	0	8,200	50	Geese	0	5,928	6,000			
May	0	0	0	9,800			0	0	27,000	12	Emus	
June	0	0	0	14,300			0	5,505	12,000			
July	0	22,425	0	2,000			0	0	0			
August	0	5,505	0	24,500			0	35,850	28,300	* 60	Fighting Cocks	
September	0	0	0	21,400	* 115	Fighting Cocks	0	0	19,500	* 3	Fighting Cocks	
October	272	0	0	6,400			0	5,505	9,500	* 7	Pigeons	
November	407	5,505	0	8,700	* 30	Fighting Cocks	0	0	14,000			
December	0	0	0	1,200			0	75,600	3,500			
TOTAL	1,308	53,865	0	119,000	631		296	133,893	7,560	164,450	113	

Source: Merida - Progreso International Inspection Office

NOTE.- Imports come from the USA, except *.

* Imports from Cuba.

Commercial Shipments of Birds and Poultry Products and Byproducts

Period	1996				1997			
	Animals (heads)		Product (kg).		Animals (heads)		Products (kg).	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
January	13	125	117	746	9	138	74	683
February	18	163	104	698	17	154	98	674
March	15	185	87	691	8	181	59	749
April	27	213	91	742	38	256	109	780
May	23	279	102	781	25	300	105	844
June	37	255	151	634	54	242	207	800
July	25	275	101	805	27	287	168	843
August	32	216	111	828	34	305	125	829
September	29	194	108	713	9	506	89	937
October	22	206	129	689	37	322	125	869
November	4	163	79	576	15	287	101	861
December	33	159	180	760	25	234	142	874
Subtotal	278	2,433	1,360	8,663	298	3,212	1,402	9,743
TOTAL	2,711	10,023	3,510	11,145				

Source: Yucatan Livestock Protection and Promotion Committee

**Summary Report of Inspections in
Movement Control Stations
Inspections**

Period	1996	1997
January	76,537	83,452
February	85,439	816,18
March	108,895	129,887
April	110,335	103,413
May	114,749	120,119
June	128,241	136,948
July	114,107	127,244
August	118,482	122,736
September	117,764	116,632
October	86,366	89,507
November	91,577	96,602
December	112,147	108,324
Total	1'264,639	1'316,482

Source: Yucatan Livestock Protection and Promotion Committee

**Summary of seizures of birds, products,
By-products and poultry farm implements**

Period	1996				1997			
	Meat Kg.	Eggs Kg.	Birds Heads	Various Boxes	Meat Kg.	Eggs Kg.	Birds Heads	Various Boxes
January	48	58	38	197	28	4	3	50
February	2122	80	33	102	10	5	1	75
March	62	33	71	78	6	8	0	86
April	20	113	1723	152	7	6	18	45
May	158	46	65	108	15	1	18	45
June	68	33	32	150	0	6	11	105
July	247	11	3	31	21	10	5	191
August	27	5	20	129	3	5	10	164
September	0	2	1	273	52	2	3	95
October	8	4	4	123	4	7	3	43
November	122	5	0	44	11	3	4	84
December	22	4	8	4	113	8	0	56
Total	2,904	394	1,998	1,391	270	65	76	1,039

Source: Yucatan Livestock Protection and Promotion Committee

IX.- ANIMAL DEMOGRAPHICS AND MARKETING PRACTICES IN THE REGION

Yucatan is a very important state for livestock production in the country, with a surplus production in various areas. Since 1994 the trade of swine, beef cattle and poultry has shown the following behavior:

Swine Production Sector: The state produced 71,890 tons of pork, of which 45% was marketed outside the state. Of this total, 2,832 tons were exported to Japan and Cuba. Yucatan is the fourth largest breeder of swine in the country.

Beef Cattle Sector: Beef production in 1997 amounted to 29,037 tons, of which 35% was marketed in other states of the country.

Poultry Production Sector: This sector produced a total of 87,126 tons of meat and 67,601 tons of eggs during 1997, and Yucatan ranks fifth and fourth in the country in the production of these two items. Of this total 35% of the meat and 57% of the eggs were sold outside the state.

There are 213 technified poultry farms in the state of Yucatan and 960,269 birds in backyard flocks throughout the state. The breakdown of technified farms by type of production is given below:

Production Type	No. of Farms
Grandparents	1
Broilers	79
Layers	51
Commercial Breeding	17
Heavy Breeders	36
Light Breeders	3
Turkeys	11
Fighting Cocks	15

X.- EMERGENCY RESPONSE CAPACITY

It is important to mention that the diseases in question are considered exotic in a state that is free, and therefore the agency responsible for prevention, control and eradication in case an outbreak is detected is the National Animal Health Emergency System (DINESA). This system includes routine bacteriology and virology sampling surveys and the National Epidemiological Surveillance System, with the support of the regional coordinating agencies of the United States - Mexico Commission for the Prevention of Foot and Mouth Disease and other Exotic Animal Diseases (CPA). The emergency response actions are described in greater detail in Section VII.

In the case of an outbreak on a farm or of a viral isolation in the case of VND or a positive bacteriological isolation of *S. pullorum* and/or *S. gallinarum*, it will be the obligation of the bird's owner and of the approved and/or responsible veterinarian of the farm or laboratory, as the case may be, to report the case promptly to SAGAR (Item 13.1, Official Mexican Standard NOM-013-ZOO-1994, National Velogenic Newcastle Disease Campaign, Item 14.2 of Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign; and Item 7.1 Official Mexican Standard NOM-046-ZOO-1995, National Epizootiological Surveillance System.)

The CPA is responsible for epidemiological surveillance in the states that are free of porcine and avian diseases subject to campaigns (classical swine fever, Aujeszky disease, velogenic Newcastle disease, avian salmonellosis and avian influenza) which consists of the establishment of state epidemiological surveillance subsystems.

The CPA also has qualified field personnel, a high security diagnosis laboratory and a zoosanitary information electronic data processing and analysis system.

In order to carry out epidemiological surveillance activities and to respond to problems because of suspicion of exotic diseases, as well as for public information and training activities, the CPA has 9 regional coordinators and 36 zone coordinators, strategically located throughout the country. In this way it maintains continuous presence and emphasizes the second barrier of defense: early detection of problems.

If an exotic disease focus is detected, the National Animal Health Emergency System (DINESA) goes into action. Its function is to control and eradicate diseases (third line of defense activities).

One of DINESA's most important activities is the establishment of State Animal Health Emergency Groups (GEESA). In order to form a GEESA a simulation course on exotic diseases is given to veterinarians and other selected professionals in the state. The next phase is a second course for the professionals who have demonstrated organizational and leadership skills and good decision making under pressure during the first course.

The role of a GEESA is to act swiftly, effectively and in an organized fashion in case of an animal health emergency. At present there are 29 such state groups, made up of 872 veterinarians and other professionals.

As part of the regionalization program, the Yucatan Peninsula comprises the states of Yucatan, Quintana Roo and Campeche, since these three present similar sanitary conditions in terms of these avian diseases and classical swine fever. Moreover, there are livestock production organizations that have production units throughout the region.

The regional GEESA was established in July 1995 and is made up of 36 veterinarians from Yucatan, Campeche and Quintana Roo.

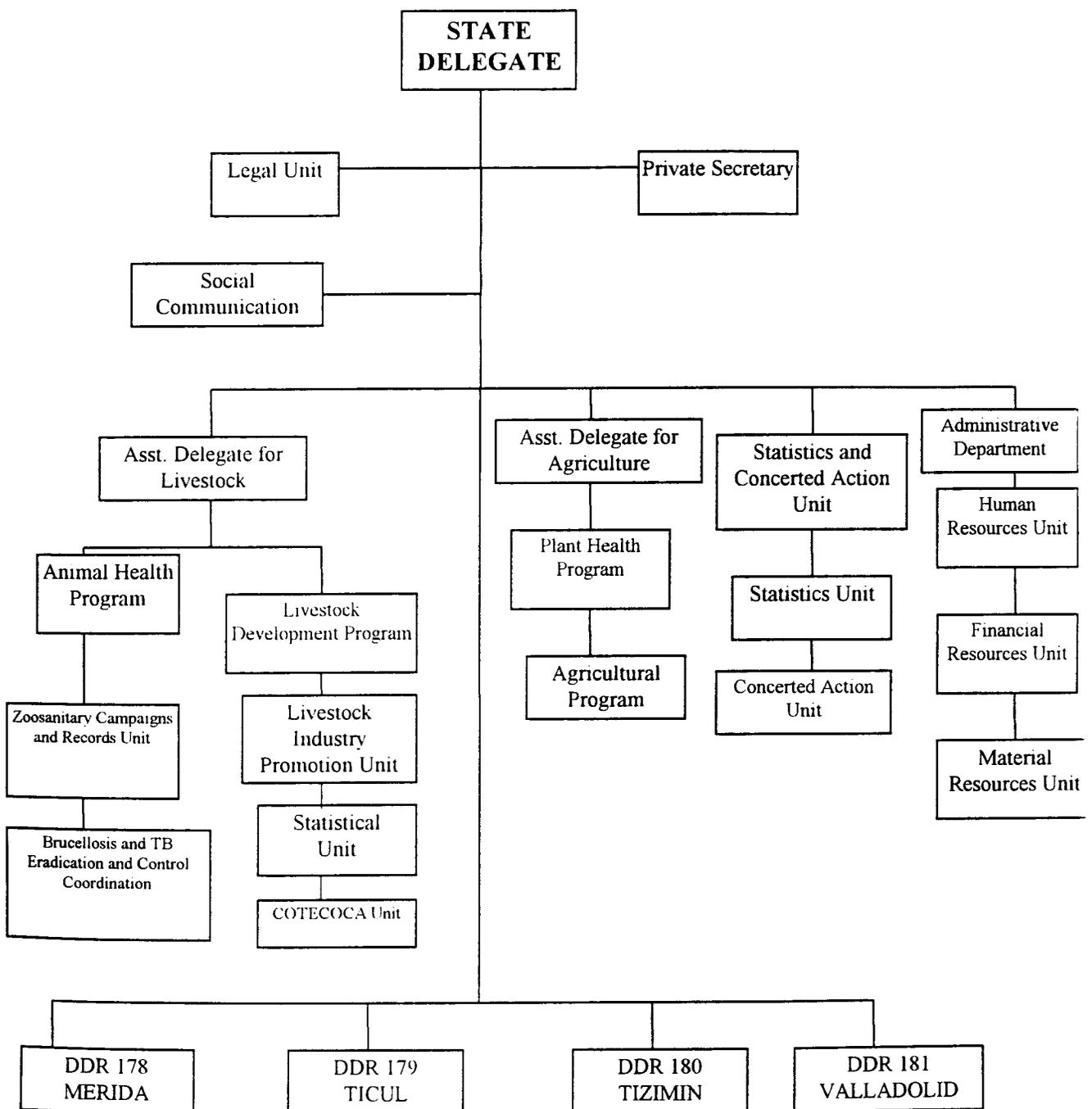
In addition, in the second half of 1997, in pursuance of Official Mexican Standard NOM-046-ZOO-1995, National Epizootiological Surveillance System, both private and official technicians began to be trained in the area of epidemiological surveillance. In June, 1997, 42 technicians were trained in Yucatan, Campeche and Quintana Roo, from the SAGAR state delegations, state governments, cattle, swine and poultry producers associations, persons responsible for animal health laboratories and zoos, the GEESA group, State Livestock Industry Protection and Promotion Committees, the coordinating body of the National Bovine Tuberculosis and Brucellosis Eradication Campaign, approved veterinarians and independent veterinarians.

APPENDIXES

- 1.- **SAGAR Federal Structure in the state of Yucatan.**
- 2.- **Yucatan State Government Organization Chart.**
- 3.- **Zoosanitary Campaign and Animal Movement Control State Program.**
- 4.- **Regional quarantine cordons.**
- 5.- **Official Mexican Standard NOM-013-ZOO-1994, National velogenic Newcastle disease Campaign.**
- 6.- **Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign.**
- 7.- **Official Mexican Standard NOM-044-ZOO-1995, National Avian Influenza Campaign.**
- 8.- **Official Mexican Standard NOM-046-ZOO-1996, National Epidemiological Surveillance System.**

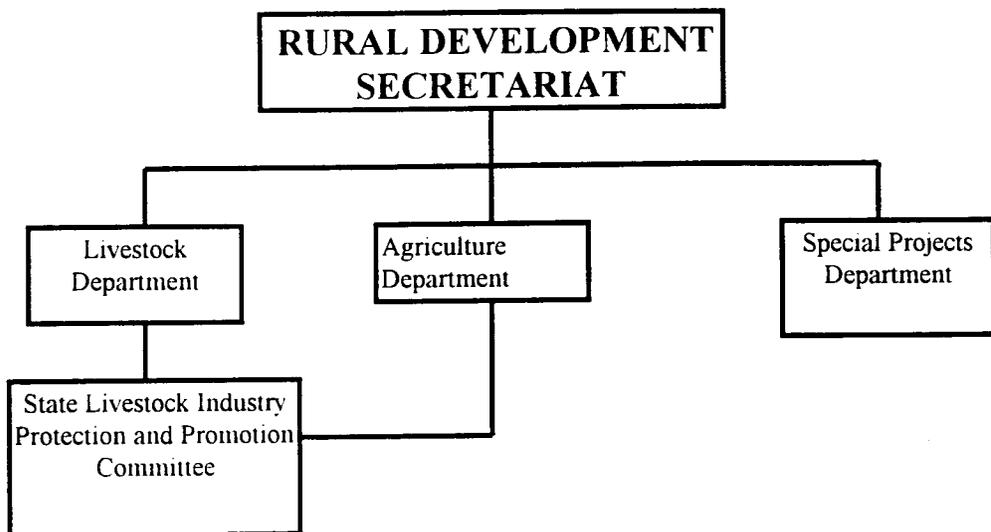
Appendix 1

SAGAR FEDERAL STRUCTURE IN THE STATE OF YUCATAN



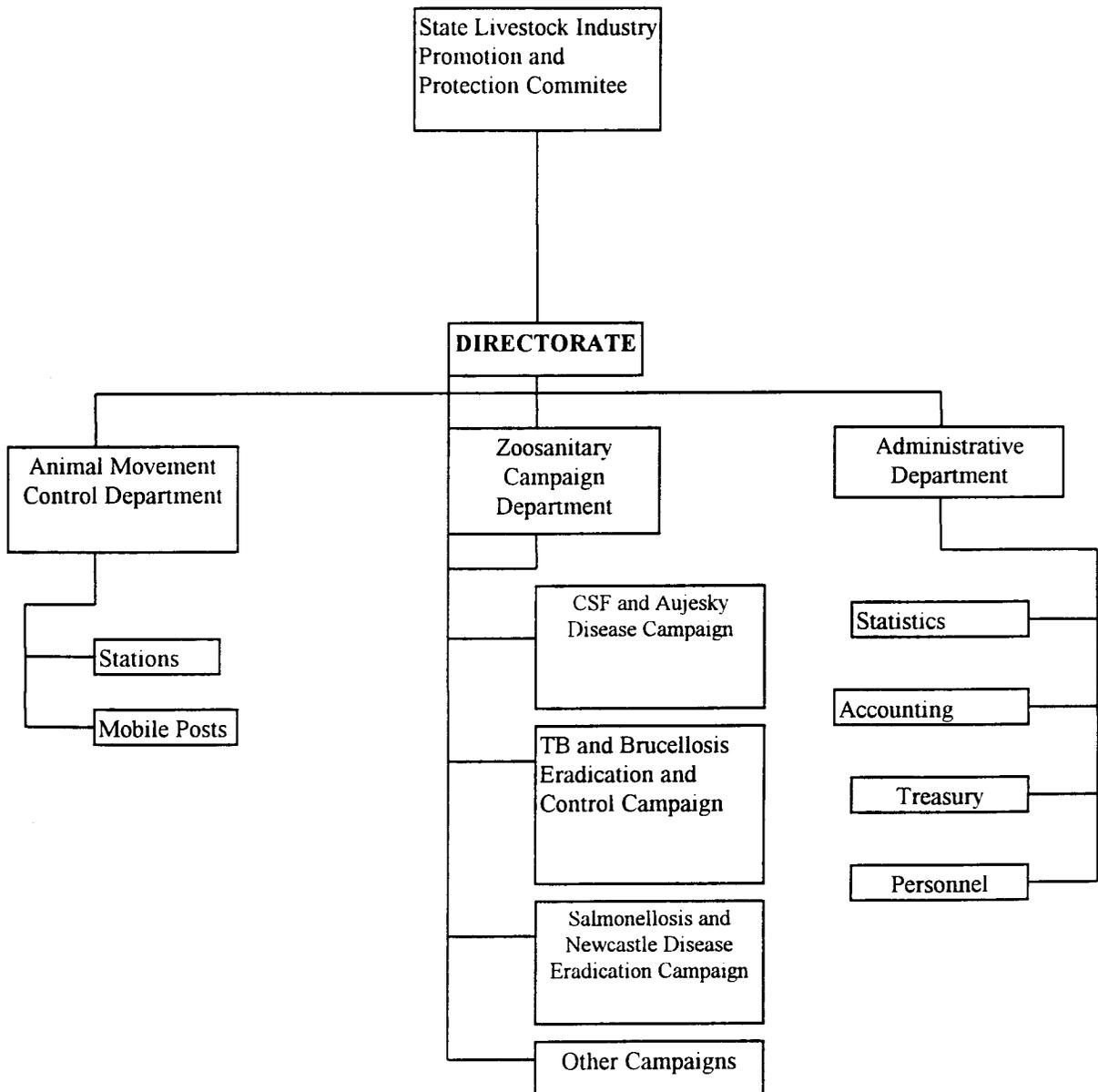
Appendix 2

YUCATAN STATE GOVERNMENT

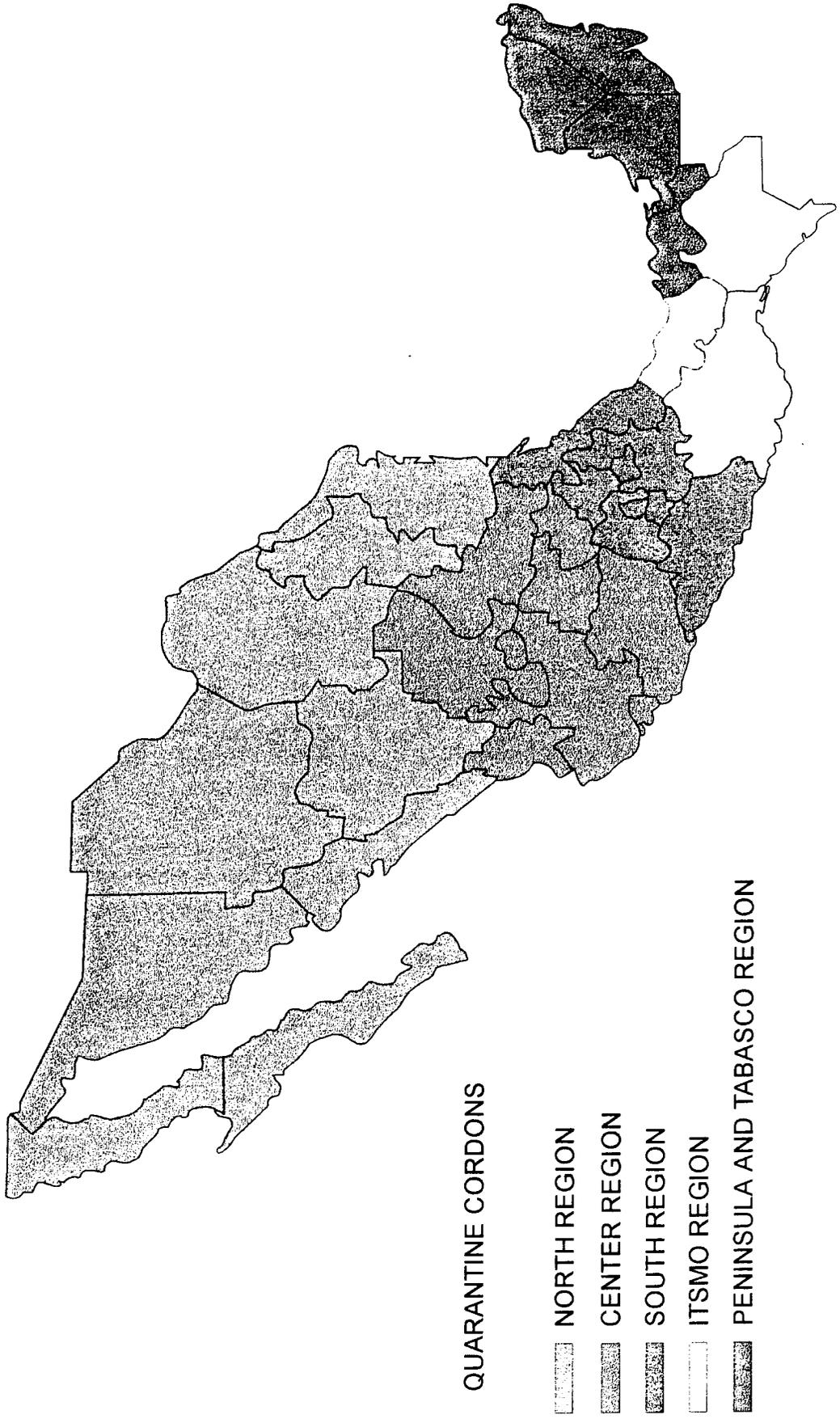


Appendix 3

ZOOSANITARY CAMPAIGN AND ANIMAL MOVEMENT CONTROL STATE PROGRAM



REGIONAL QUARANTINE CORDONS



MINISTRY OF AGRICULTURE, LIVESTOCK AND RURAL DEVELOPMENT**Mexican Regulatory Standard NOM-013-ZOO-1994 National Campaign against Newcastle Disease.**

At the margin a seal with the National Emblem, that says: Mexican United States.-
Ministry of Agriculture, Livestock and Rural Development.

The Ministry of Agriculture Livestock and Rural Development, under the articles: 1st, 3rd, 4th fraction III, 12th, 13th, 21st, 22nd, 31st, 32nd and 33rd of the Federal Animal Health Act; 1st, 38th fraction II, 40th, 41st, 43rd, 47th fraction IV of the Federal Weights, Measures and Standards Act; 35th fraction IV of the Federal Public Administration Organic Law; 10th fraction V of the Ministry of Agriculture and Water Resources' Internal Act; and

CONSIDERING

That under the Federal Animal Health Act, it is, amongst others, a function of the Ministry of Agriculture, Livestock and Rural Development to organize and administrate the services of livestock defense, and animal health surveillance, as well as to prevent, control, and eradicate diseases and harmful pests that impair the national livestock and avian industries, such as the Newcastle Disease.

That the Newcastle Disease (ND) is a lethal, contagious viral disease that affects domestic and wild birds, causing high morbidity and mortality in the same.

That the virus of ND is divided according to its pathogenicity and virulence in lentogenic (low pathogenicity), mesogenic (moderate pathogenicity) and velogenic (high pathogenicity) these latter ones are those that produce a serious sanitary and commercialization problem in the national avian industry.

That in order to increase and improve the sanitary quality of avian products it is necessary to establish a strict control on the Newcastle Disease, vying for its eradication in order to allow the national poultry industry to develop in better sanitary conditions.

That to comply with the objectives hereinbefore stated, that are of an obvious public and social interest, it is necessary to establish a general, obligatory and permanent campaign to prevent, control and eradicate the Newcastle Disease in birds, and in this manner, look for the support and collaboration of all sectors in the country that are closely related to the national avian industry, as well as the general public, therefore I issue the Mexican Regulatory Standard NOM-013-ZOO-1994, National Campaign against Velogenic Newcastle Disease.

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1. OBJECTIVE AND FIELD OF APPLICATION

1.1. The Standard hereunder is of obligatory observance in all the national territory and its objective is to establish the uniform procedures, activities, criteria, strategies and operative techniques for the prevention, control and eradication of Newcastle Disease in its velogenic presentation, in all the national territory, including in wild fowl, as well as the prevention and control of the mesogenic presentation.

1.2. The vigilance of this Standard belongs to the Ministry of Agriculture, Livestock and Rural Development, and also to the state governments in relation to their respective attributes and territories, under the corresponding coordination agreements.

1.3. The application of the provisions in this Regulatory Standard is the duty of the Animal Health Department, and also of the Ministry of Agriculture, Livestock and Rural Development's Federal State Agencies in relation to their respective attributes and territorial circumscriptions.

2. REFERENCES

In order to correctly apply this Standard, the following Mexican Regulatory Standard must be consulted:

NOM-008-SCFI-1993 General Measure Units System.

3. DEFINITIONS AND ABBREVIATIONS

For the purposes of this regulatory standard, the following terms shall be construed respectively to mean:

3.1. Viral isolation: Diagnostic test done at an approved laboratory for the National Campaign against the Newcastle Disease, by inoculation of chick embryos with samples from birds, for the isolation and identification of the Newcastle Disease virus.

3.2. Outbreak: Presence of one or more cases of the Newcastle Disease in its velogenic presentation in a determinate geographical area and in a given time span.

3.3. Campaign: The National Campaign against the Newcastle disease in its velogenic presentation.

3.4. Animal Sanitary Certificate: Official document issued by the Ministry or by those persons so approved or accredited to certify the upholding of this Standard. In the case of animals, it shall be signed by an approved or from the Ministry veterinary doctor.

- 3.5. Document of Proof of Free Flock: Official document issued by the Ministry of Agriculture, Livestock and Rural Development and granted to the owners of the flocks of primary and multiplier breeders enrolled in the Campaign and that have complied with the guidelines established in this Standard.
- 3.6. Document of proof of free farm: Official document issued by the Ministry of Agriculture, Livestock and Rural Development and granted to the owners of the broiler and layer farms enrolled in the Campaign and that have complied with the guidelines established in this Standard.
- 3.7. Document of proof of free enterprise: Official document issued by the Ministry of Agriculture, Livestock and Rural Development and granted to the enterprise owners of the birds enrolled in the Campaign and that have complied with the guidelines established in this Standard.
- 3.8. Progressive verification: The avian farms and facilities that are slowly being integrated into the campaign programs.
- 3.9. Control: Set of animal sanitary measures that have as an objective to reduce the incidence and prevalence of the Newcastle Disease in a determinate geographical area.
- 3.10. Department: The General Animal Health Department
- 3.11. ND: Newcastle Disease
- 3.12. VND: Velogenic Newcastle Disease
- 3.13. Eradication: Total elimination of the Newcastle Disease in its velogenic presentation, in a determinate geographical area.
- 3.14. Farm: Avian facilities or centers, that for the purposes of this Standard, are used for layers, broilers, growth, ornamental bird rearing and others that the Ministry may so deem necessary.
- 3.15. Approved Laboratory: Diagnostic laboratory recognized by the Ministry of Agriculture, Livestock and Rural Development.
- 3.16. Approved Veterinary Doctor: Professional recognized by the Ministry of Agriculture, Livestock and Rural Development to perform official animal sanitary activities.
- 3.17. Official Veterinary Doctor: Professional paid by the Ministry of Agriculture, Livestock and Rural Development.
- 3.18. Flock: Set of birds, that for the purposes of this Standard are primary or multiplier

breeders.

3.19. Procedures or phases: Set of animal sanitary activities done in a strategic and sequential manner, necessary for the eradication of the Newcastle Disease in its velogenic presentation.

3.20. Prevention: Set of animal sanitary activities, based on epizootiological studies, whose object is to avoid the presentation of the Velogenic Newcastle Disease.

3.21. Diagnostic Test: Test for the isolation and identification in chick embryo of the Newcastle Disease virus.

3.22. Ministry: Ministry of Agriculture, Livestock and Rural Development.

3.23. Low prevalence zone: Determinate geographical area, where the presence of recent VND cases has a minimum frequency, during a given interval of time.

3.24. Control zone: Determinate geographical area, where animal sanitary measures are operated, in order to reduce the incidence or prevalence VND, in a given interval of time.

3.25. Eradication zone or state: Determinate geographical area, where animal sanitary measures are operated, in order to eliminate VND, or epizootiological studies are being made, in order to verify the absence of said disease, in a two year period.

3.26. Free zone or state: Determinate geographical area, where VND has been eliminated or where there have not been positive cases of the disease, during a year.

4. GENERAL PROVISIONS

4.1. The Campaign is oriented towards the eradication of VND in primary and multiplier breeders, layers, broilers, fighting cocks, growth flocks and in ornamental birds.

As far as wild fowl are concerned, the Ministry shall determine the species in which, by reasons it considers necessary, this Standard shall be applied in the time and place it so deems.

4.2. The responsibility of the operation of the Campaign programs shall be shared amongst the federal and state governments, the owners, producers, traders, bird transporters and others that the Ministry so determines.

4.3. The protection of states, regions, zones, birds free from the disease or when a state or zone is within one year of entering the eradication phase, shall be done by a strict control of animal movements.

4.4. The flocks or farms where there are positive birds to the official diagnostic test for ND, will not be traded nor moved to any other destination that is not slaughter.

4.5. The campaign shall last until all the country is declared free of VND.

5. APPROVAL

5.1. The veterinary doctors that comply with the requirements established in the Mexican Regulatory Standard issued to that effect, shall be approved for activities related to ND.

5.2. The approved veterinary doctors shall participate in the verification of flocks and farms, as well as the eradication activities determined by the Ministry as well as, in the epidemiological surveillance in areas under control, intensive control, eradication and free from VND.

5.3. The approved laboratories shall be able to issue results of the virological isolation and identification for the verification of free to VND flocks and farms, as well as taking the samples in eradication zones, regions or states, with the purpose of its official liberation.

6. CAMPAIGN PHASES

6.1. The Campaign shall have the following operation phases:

- a) Control;
- b) Intensive control;
- c) Eradication; and
- d) Free

6.2. The phases will be done in three levels:

- a) State
- b) Region
- c) Zone

6.3. To obtain official recognition of the Campaign phases the following requirements must be complied with:

6.3.1. Control phase:

- a) Control of the movement of animals, products and by-products and avian equipment.
- b) Epidemiological surveillance system.

- c) Campaign promotion program.
- d) Verification of primary and multiplier breeders.

6.3.2. Intensive control phase:

- a) Control of movements
- b) Epidemiological surveillance system.
- c) Diagnostic infrastructure
- d) Campaign promotion program.
- e) Verification of primary and multiplier breeders.
- f) Progressive verification of farms of commercial layers, broilers, fighting cocks, wild fowl, song and ornamental birds, either in production or rearing.

6.3.3. In the eradication phase:

- a) Keep record of the movements of animals, products, by-products and avian equipments.
- b) Establish the epidemiological surveillance system.
- c) Prepare a Campaign promotion program.
- d) For the incorporation of states to the eradication phase, the absence of VND in farms of commercial layers, broilers, fighting cocks, wild fowl, song and ornamental birds, either in production or rearing shall be corroborated through epidemiologically taking samples of the size estimated by the Department.
- e) Whenever dealing with primary breeders, they shall invariable comply with the corresponding guidelines to obtain the document of proof that they are free from VND.

6.3.4. In the free phase:

- a) In order to enter the free phase, a zone, state or region must remain at least 12 months in eradication phase, and repeat the epidemiological testing that validates its animal sanitary situation, and having previously complied with the provisions of point 6.3.3. of this Standard.
- b) Have animal health emergency and epidemiological surveillance systems.

To declare a zone as free it shall be done by accord of the Minister of Agriculture, Livestock and Rural Development, and it shall be published in the Official Federal Gazette.

7. DIAGNOSIS

7.1. For the purposes of the Campaign the samples shall be sent to laboratories approved by the Ministry.

7.2. The official diagnostic test for the Campaign shall be the viral isolation and identification of velogenic strains for ND.

7.3. For the isolation and identification of ND virus, the samples must be:

- Trachea
- Lung
- Spleen
- Encephalon
- Cecal tonsils

7.4. For the isolation and identification of the ND virus, in fighting cocks, wild fowl, and song and ornamental birds, the samples shall be taken by cloacal and/or pharyngeal swabs, and/or fresh faeces and/or the organs mentioned hereinbefore.

7.5. Shipment of samples to the laboratory approved by the Ministry.

The organs and/or fresh faeces, shall be sent in jars or sterile bags, frozen and in no more than 48 hours after they were taken; the swabs shall be sent according to what the Laboratory approved by the Ministry requires.

7.6. Technique for the isolation of the ND virus and the interpretation of the results thereof.

When handling organs, the tissue must be cut in small chunks with sterile scissors and homogenized within a mortar or a Tenbroeck tissue grinder, using phosphate tryptose broth in a concentration of weight/volume.

When handling swabs or faeces, phosphate tryptose broth in a concentration of weight/volume shall be added.

After that, for any of the three types of samples mentioned before, the procedure shall be the following:

- a) Centrifuge at 2500 RPM during 20 min.; decant and filter through a millipore membrane of 0.45 u;
- b) Inoculate five, 9 to 11 day old embryos with 0.2 ml of the supernatant by the amnio-allantoid chamber;
- c) Candle the embryos with an ovoscope at least every 24 hrs.

The embryos that die in the first 24 hrs shall be considered as having died of traumatism.

Generally the VND virus kills embryos at two to seven days after inoculation, therefore those embryos that die after the first 24 hrs , must be kept in refrigeration at 4°C for further testing.

The amnio-allantoid fluid of the dead embryos, has sufficient hemagglutinines to produce the agglutination of chicken erythrocytes. This property gives a convenient and simple basis for the identification of the virus by means of the plate agglutination and the inhibition of hemagglutination by a monospecific serum.

- d) Take amnio-allantoid fluid of every dead embryo using a tuberculin syringe.
- e) Place 0.050 to 0.100 ml of fluid in three different places on the glass plate.
- f) The first drop shall be only of amnio-allantoid fluid, to the second add an equal volume of negative serum and to the third add antiserum against ND virus (positive serum), mix well using wooden toothpicks, a different one for each drop, incubate three to five minutes at room temperature.
- g) Add to each of the suspensions 0.050 to 0.100 ml of 5% washed chicken erythrocytes and mix with toothpicks. Move the plate softly during 10 to 15 sec and observe for hemagglutination. The positive cases hemoagglutinate quickly.
- h) If the sample is positive there will be hemagglutination in the fluid plus erythrocyte suspension and in the fluid plus negative serum plus erythrocytes, and there will be hemagglutination-inhibition in the fluid plus anti-VND plus erythrocytes, as shown in the following table:

MIX	ERYTHROCYTE AGGLUTINATION
Problem fluid + erythrocytes	Positive or negative
Problem fluid + serum against ND + erythrocytes	Positive or negative
Known ND virus + erythrocytes	Positive

Known ND virus + serum against ND
+ erythrocytes.

Negative

The embryos that die after the first 24 hrs, must be placed in refrigeration for at least 30 min., in order to more easily obtain the free from erythrocytes allantoic fluid since they can alter the reading of the reaction.

After that, only the clear or slightly red amnio-allantoic fluid is tested. If hemolyzed or contaminated fluids are used it is easy to observe false-positive reactions.

The ND virus is a contaminant in the laboratory, therefore all precautions must be taken to avoid the contamination of the samples being processed.

7.7. Characterization of the ND virus strains

The technique to determine the time for Half the Mortality at the Minimum Lethal Dose for Chick Embryo, is the following:

- a) Dilute the problem allantoic fluid in phosphate tryptose broth, at 10^{-1} to 10^{-10} .
- b) Use the last five dilutions of 10^{-6} to 10^{-10} .
- c) Inoculate ten, 9 to 11 day old embryos per each dilution, with 0.02 ml per embryo in the allantoic chamber. Five embryos shall be inoculated at time X and 8 hours later the other five, which represents time Y;
- d) Record the embryo mortality during the 128 hours incubation period. The embryos that die within the first 24 hours shall not be taken into consideration to estimate the embryo mortality time; and
- e) Register the identification of the embryos that die, separating the groups for the X hour and the y hours.

To estimate the embryo mortality time, the following formula shall be applied:

$$\text{TME} = \frac{(\text{NEX})(\text{X}) + (\text{NEY})(\text{Y}) + \text{ETC}}{\text{NEM}}$$

Where:

TME = Embryo mortality time

NEX = Number of dead embryos for hour X

X = Hour X y = Hour y

NEY = Number of dead embryos for hour Y

ETC = The same procedure is applied to the other dilutions

NEM = Total number of dead embryos

MORTALITY TIME	TYPE OF NEWCASTLE STRAIN INTERPRETATION
Less than 60 hours	Velogenic
From 60 to 90 hours	Mesogenic
More than 90 hours	Lentogenic

8. CAMPAIGN PROGRAMS

8.1. Every owner of birds, flocks or avian farms, must participate in one of the programs of the Campaign.

8.2. The Campaign programs are:

- a) Free flock program; and
- b) Free farm program.

8.3. In all the cases, the Ministry shall issue a document of proof whereby it is officially accepted that the Standard is being complied with.

8.4. To obtain the document of proof for free of VND flocks and farms the following procedure must be complied with:

8.4.1. Send to the Ministry the inscription to the Campaign format signed by the owner or legal representative and the official or approved veterinary doctor.

8.4.2. Send to the Ministry the laboratory test results that show the results of the viral isolation of VND, issued by the laboratory approved by the Ministry, and done according to the provisions of point 7 of this Standard.

The number of samples required for the issuance of document of proof of free flocks and farms are the following:

ZOOTECNICAL PURPOSE	NUMBER OF SAMPLES SENT	PERIODICITY OF SAMPLES (months)	SPECIFICATIONS AT THE TIME THEY ARE TAKEN
PRIMARY BREEDERS	35*	3 - 4	After 20 weeks of age
MULTIPLIER BREEDERS	35*	3 - 4	After 18 weeks of age
COMMERCIAL LAYERS	70*	3 - 4	Any age
BROILERS	70*	Every lot that comes into the facilities	After 12 days of age
FIGHTING, SONG AND ORNAMENTAL BIRDS	35*	3 - 4	Any age

WILD FOWL AS DETERMINED BY THE DEPARTMENT

* At least 10 samples shall be of live birds or organs, and the rest (25), may be tracheal or cloacal swabs; retesting will be done in the same manner with 35 tracheal or cloacal swabs.

** At least 10 samples shall be of live birds or organs, and the rest (60), may be tracheal or cloacal swabs; retesting will be done in the same manner with 70 tracheal or cloacal swabs.

*** Must correspond to tracheal or cloacal swabs retesting will be done in the same manner.

In case of a positive isolation, the following shall proceed:

1.- In free and in eradication zones

- Quarantine of the premises, time and place to be determined by the Ministry;

- Slaughter of positive flocks, sending them to a slaughter house or sacrificing them in the farm, and that shall be followed by burial, incineration or other procedure so deemed by the Ministry;

- Sanitizing and disinfection of the facilities, as determined in each case by the Ministry. The fulfillment of the process hereinbefore stated shall be supervised by an approved or official veterinary doctor; and

- Inactivation of organic wastes of the premises, as the Ministry shall determine in each case.

II. In control zones

- Quarantine of the premises, time and place to be determined by the Ministry;

- The movement of birds, waste and equipments of the quarantined facilities is prohibited;

- Once the premises are empty, they shall be sanitized and disinfected as determined in each case by the Ministry. The fulfillment of the process hereinbefore stated shall be supervised by an approved or official veterinary doctor; and

- Inactivation of organic waste in the premises, as the Ministry shall determine in each case.

8.4.3. All flocks and farms that have the document of proof as free from VND, during the time that the document is in force shall retest for virological diagnosis in accordance to the provisions of point 8.4.2., beginning from the date of issuance of same and the owners and approved veterinary doctors shall be responsible for the forwarding of the test results to the respective Federal State Agency, within 30 days after the corresponding dates; to the contrary the document of proof shall be cancelled.

8.5. Effective date of the documents of proof

8.5.1. The documents of proof of broiler and double-purpose primary and multiplier breeders free flocks will be in effect for 10 months, from the date of issuance of the laboratory test results.

8.5.2. The documents of proof of layers primary and multiplier breeders free flocks will be in effect for 12 months, from the date of issuance of the laboratory test results.

8.5.3. The documents of proof of layers primary and multiplier breeders free flocks will be in effect for 12 months, from the date of issuance of the laboratory test results.

8.5.4. The documents of proof of enterprises, flocks and farms free from VND, in wild, song and ornamental fowl and other domesticated fowl will be in effect for 12 months, from the date of issuance of the laboratory test results.