SACAR

COMISION NACIONAL DE SANIDAD AGROPECUARIA
DIRECCION GENERAL DE SALUD ANIMAL

Comisión Nacional de Sanidad Agropecuaria

INFORMATION ON QUINTANA ROO STATE AS FREE OF VELOGENIC NEWCASTLE DISEASE AND AVIAN SALMONELLOSIS

Mexico/August, 1998

INFORMATION ON THE STATE OF QUINTANA ROO AS FREE OF VELOGENIC NEWCASTLE DISEASE AND AVIAN SALMONELLOSIS

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-Z00-1995, Minimum requirements for production of vaccines used in avian influenza prevention, control and eradication.

Official Mexican Standard NOM-003-ZOO-1994, Operational criterions 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 Authority

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 Act, Chapter III, Article 4 (June 18, 1993).

Quintana Roo State Law on Livestock, Chapter II, Article 5 (December, 1976).

Animal Health Infrastructure

a) Federal Structure

There is a State Delegate of the Agriculture and Rural Development Secretariat (SAGAR) in Quintana Roo and a Sub-delegation for the livestock sector. The organization chart of this structure is shown in Annex 1.

Veterinarian Personnel

Official Veterinarians.- The state is divided into 3 Rural Development Districts (DDRs) – Chetumal, Felipe Carrillo Puerto and Cancun - staffed by one veterinarian and two agricultural technicians. In addition, there are 7 official veterinarians who work in the office of the Sub-delegation for Livestock.

Approved Veterinarians.- There are no veterinarians in the state approved for these avian diseases. The epidemiological surveillance of avian diseases in the state is carried out by official veterinarians.

There are 6 phytozoosanitary inspection offices in the state for international control of movements of animals and animal products and byproducts, supervised by official inspectors and veterinarians. There are also 10 inspection posts and 1 quarantine station, staffed by qualified SAGAR personnel.

There is one TIF plant in Quintana Roo for beef cattle and 5 municipal slaughter plants, with zoosanitary inspection by the veterinarians who work in those plants.

b) State Structure

The Livestock Promotion and Protection Committee (CFPP) and the Rural Development and Economic Promotion Secretariat (SEPEDR) play a very important role in the state of Quintana Roo's animal health infrastructure, since it is the subcommittees of these bodies, working in coordination with the Federal Government through the SAGAR Livestock Sub-delegation, which implement the zoosanitary campaigns of regional interest. The SEPEDR organization chart is shown in Annex 2.

c) Technical and Professional Schools

There are 4 Agricultural Technical Schools, whose graduates work in the area of animal health.

II.- TYPE AND EXTENT OF SURVEILLANCE IN THE REGION

Active Surveillance

During the eradication phase, and also in order to declare the state free of both diseases, a 100% inspection of commercial farms was carried out, following the scheme indicated in Item 9 of Official Mexican Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign, and Item 8 of standard NOM-013-ZOO-1994, National Velogenic Newcastle Disease.

An epidemiological survey was conducted in early 1996 in order to prove the absence of **VND** and **AS** in the state, and thus enter the eradication phase. The program called for 1,050 samples from technified poultry farms: However, it was found that 11 of the 30 farms in the state were not in operation and therefor the number of samples was reduced to 665. A total of 937 samples were collected from back yard flocks, all of which were negative, and consequently the state moved into the eradication phase of both diseases in August, 1996.

It should be clarified that by 1997 only 2 of the 30 existing technified farms were still in operation, since the others had stopped production due to financial circumstances.

An epidemiological sampling survey was carried out in 1997 to obtain official recognition of the state as free of **VND** and **AS**. The samples were collected according to the following scheme:

Statistical Sample Size for Technified Poultry Farms
In the state of Quintana Roo, 1997

Newcastle Disease and Avian Salmonellosis

Municipality	Name of Farm	Population *	%	No of Posts	Sample Size	No of samples per post	Total samples per farm
Felipe Carrillo Puerto	Aviproductos Sanjor	181,286	51.5	9	99	11	99
	Ind. Avícola del Sureste	170,833	48.5	18	99	6	108
TOTAL		**352,119**	**100**	**27**			**207**

a) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for technified farms, with a 95% confidence level and 3% expected prevalence
b) 100% of the existing posts were sampled.
* Estimated number of birds per productive cycle, considering six cycles a year.

Statistical Sample Size for Back Yard Flocks
In the state of Quintana Roo, 1997

Newcastle Disease and Avian Salmonellosis

Municipality	Total No. of properties	%	Bird Population	%	Total No. of Premises to be Sampled	Total No. of Samples per Municipality
Othón P. Blanco	26,636	77	369540	75.29	229	1,145
Felipe Carrillo Puerto	2,844	8	42,667	8.69	24	120
José Ma. Morelos	3,098	9	46,470	9.47	26	130
Lázaro Cárdenas	532	2	7,980	1.63	5	25
Cozumel	30	0	450	0.09	1	5
Benito Juárez	392	1	5,880	1.20	3	15
Isla Mujeres	188	1	2,820	0.57	2	10
Solidaridad	1,000	3	15,000	3.06	9	45
TOTAL	**34,720**	**100**	**490,807**	**100**	**299**	**1,495**

a) Five samples were taken from each back yard flock, or 100% if there were fewer birds.
b) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for back yard flocks in the state of Campeche, with a 95% confidence level and 1% prevalence.
c) Sampling was random regardless of whether the birds were confined or free roaming.

The total number of samples collected in 1997 and their origin is shown in the table below:

Number of Samples VND		Number of Samples AS	
Back Yards	**Tech. Farms**	**Back Yards**	**Tech. Farms**
1,520	850	1,520	214
Total 2,370		**Total 1,734**	

The difference between the number of samples taken for the two diseases is because the survey was based on examinations of flocks and farms. Item 9.7, paragraph b of Standard NOM-005-ZOO-1993, National Avian Salmonellosis Campaign, specifies that 3 to 5 chicks should be sampled out of each 10,000 chicks on the farm. In the case of Newcastle disease, Item 8.4.2. of Standard NOM-013-ZOO-1994 specified that 70 samples should be taken from every lot that enters the farm.

The samples were sent to the Merida Regional Central Laboratory and they were all negative. The state of Quintana Roo was officially declared free of these diseases in December, 1997.

The table below shows the sampling procedure in the state for the 1998 epidemiological surveillance of these diseases:

Statistical Sample Size for Technified Poultry Farms
In the state of Quintana Roo, 1998

Newcastle Disease and Avian Salmonellosis

MUNICIPALITY	FARM NAME	BIRD POPULATION	%	SAMPLE SIZE
FELIPE CARRILLO PUERTO	AVIPRODUCTOS SANJOR*	181,286	43.8	99
	IND. AVICOLA DEL SURESTE*	170,833	41.3	99
	CBTA No. 80	6,000	1.45	99
	MANUEL CARDEÑA	6,000	1.45	99
	RAMON SANTOS	36,000	8.7	99
	NUIGEL LOPEZ	2,400	0.58	99
JOSE MARIA MORELOS	ESC. TEC. No.15	1,200	0.29	99
	EJ. PLAN DE LA NORIA	600	0.14	99
	CARLOS CETINA	7,200	1.74	99
	JUAN ALAMILLA	1,200	0.29	99
	PAULA CASTILLA	1,200	0.29	99
TOTALS		413,919	100	1,089

a) The Cannon and Roe formula (1982) was used to estimate the statistical sample for technified farms, with a 95% confidence level and a 3% expected prevalence.
b) 100% of existing posts should be sampled.
* Estimated number of birds by production cycle, considering six cycles a year.

Sample Size for Back Yard Flocks
In the state of Quintana Roo, 1998

Newcastle Disease and Avian Salmonellosis

MUNICIPALITY	TOTAL NO. OF UNITS	%	BIRD POPULATION	%	TOTAL NO. OF UNITS TO BE SAMPLED
OTHON P. BLANCO	13,263	52	198,940	51.73	155
FELIPE CARRILLO PUERTO	3,095	12	46,430	12.07	36
JOSE Ma. MORELOS	3,327	13	49,911	12.98	39
LAZARO CARDENAS	1,956	8	29,342	7.63	23
COZUMEL	0	0	0	0.00	0
BENITO JUAREZ	571	2	8,573	2.23	7
ISLA MUJERES	387	2	5,800	1.51	5
SOLIDARIDAD	3,040	12	45,600	11.86	35
TOTAL	**25,639**	**100**	**384,596**	**100**	**299**

a) Samples are taken from 100% of the birds found in the back yard flock.
c) The Cannon and Roe formula (1982) was used to estimate the statistical sample size for back yard flocks, with a 95% confidence level and a 1% prevalence.

Passive Surveillance

By law there are various diseases in Mexico subject to mandatory immediate reporting. Moreover, Official Mexican Standard NOM-046-ZOO-1996, National Epizootiological Surveillance System, defines the persons and agencies or organizations that should report animal diseases, as well as the reporting mechanisms and frequency to be used. In this way, passive surveillance is the same for all states.

III.-DIAGNOSTIC LABORATORY CAPACITY

There are the following animal health diagnosis laboratories in the state:

LABORATORY	AREA OF INFLUENCE	DIAGNOSIS
Subteniente López	State-wide	Brucellosis, parasitology, serology and clinical tests.
Felipe Carrillo Puerto	Felipe Carrillo Puerto DDR	Brucellosis, parasitology, serology and clinical tests.
Kantunilkin	Cancun DDR	Brucellosis, parasitology, serology and clinical tests.

In order to diagnose these avian diseases the state involved sends the samples to the National Animal Health Diagnosis Reference Center (CENASA) and to the Merida Central Regional Laboratory.

IV.- STATUS OF THE DISEASE

The last **VND** focus that was diagnosed in Quintana Roo took place in September, 1990, and the last **AS** focus in April, 1984. Both outbreaks were found in the Othon P. Blanco municipality.

On August 15, 1996, the state of Quintana Roo moved into the eradication phase for both diseases, and on December 19, 1997 it was officially declared free. Ongoing active surveillance of commercial and back yard poultry began in 1997.

V.- STATUS OF VACCINATION IN THE REGION

VND vaccination is carried out according to Item 9 of Standard NOM-013-ZOO-1994, National Velogenic Newcastle Disease.

Since Quintana Roo is free of **AS**, the use of vaccines and bacterines for this disease is forbidden for any kind of birds (Item 10.4, NOM-005-ZOO-1993, National Avian Salmonellosis Campaign).

VI.- STATUS OF THE DISEASE IN ADJACENT REGIONS

In regard to **VND**, the use of emulsified and freeze-dried vaccine is generalized throughout the country, as indicated in Item 9 NOM-013-ZOO-1994, National Velogenic Newcastle Disease Campaign.

As to **AS**, since Yucatan and Campeche are disease-free zones the application of vaccines and bacterines for this disease is forbidden for all kinds of birds (Item 10.4, NOM-005-ZOO-1993, National Avian Salmonellosis Campaign).

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

Quintana Roo is bounded on the west by the states of Campeche and Yucatan, and on the south by Belize and Guatemala. Both Campeche and Yucatan are free of VND and AS. The state's natural barriers are the Gulf of Mexico on the north, the Caribbean Sea on the east and the Hondo River to the south, which is the state's natural barrier along the Belize border.

In terms of man-made physical barriers, Mexico has put in place the **National Agricultural Quarantine System** which is made up of a great many points where the movements of animals and animal products are controlled.

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 first two are basically regulatory agencies while the third is operational. The National Agricultural Quarantine System combines the regulatory and operations functions of the three Directorates as a strategic basis for implementation of quarantine services, which are carried out to protect the country's farming, forestry and livestock resources. These services focus on preventing the entry of exotic pests and diseases and on contributing to prevention, and to control and eradication if the diseases should occur. They also support phytozoosanitary campaigns at the national level and the maintenance of zones that are free of animal and plant pests and diseases.

The National Agricultural Quarantine System is made up of the Foreign and the Domestic Quarantine services. The Foreign Quarantine Service includes all activities directed to preventing the entry of diseases into the country, while the Domestic Quarantine Service is in charge of the activities designed to prevent diseases that exist in the country from spreading to other areas, whether affected or disease-free.

Domestic Quarantine.- This service has check points within the country to inspect animals and agricultural products that are being mobilized, and to verify that official regulations are observed, in order to guarantee that such movements do not involve any zoosanitary risks. The inspection posts that control inbound and outbound movements of animals and agricultural products and byproducts in the state of **Quintana Roo** are the following:

NAME	LOCATION	PERSONNEL
Caobas	Across the border from X-Pujil, Camp.	12
Cocoyol	Río Hondo riverside	3
Subteniente López*	Belize Crossroads	10
Tres Garantías	Tomás Garrido Junction	3
Felipe Carrillo Puerto	Felipe Carrillo Puerto	3
Dziuche	Across the border from Santa Rosa, Yuc.	4
Tepich	Across the border from XTobil, Yuc.	4
Nuevo Xcan	Border of XCan, Yuc.	6
Quintana	Border of La Sierra, Yuc.	3
Cedral	Border of Popolnah, Yuc.	3

* Quarantine station.

Note.- All the personnel at the stations is on the SAGAR and CFPP staff.

The system provides even more protection for disease-free regions by means of regional quarantine cordons, made up of 46 facilities, including quarantine posts and stations, located around regions that comprise several states that share similar phytozoosanitary characteristics, and which because of their geographical location, means of communication

and animal traffic, are implementing efficient control of movements of animals and agricultural products and byproducts.

The quarantine cordon that protects the states in the peninsula, including Quintana Roo, is **the Peninsula – Tabasco Quarantine Cordon** and it is made up of the following inspection posts:

PENINSULA – TABASCO REGION QUARANTINE CORDON

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

Foreign Quarantine.- This type of quarantine is also considered the first line of sanitary defense and its purpose is to take preventive actions designed to prevent the entry of pests and diseases into the country. This is done by inspectors at sea ports, airports and borders.

The state of Quintana Roo has the following inspection offices:

Inspection Office	Border	Airport	Port
Subteniente López, Q Roo	*		
Chetumal, Q. Roo		*	
Cancun, Q Roo		*	
Playa del Carmen, Q. Roo			*
Cozumel, Q. Roo		*	*
Puerto Morelos, Q. Roo			*

It should be mentioned that the Subteniente López inspection office is located on the Belize border, where strict inspection and phytozoosanitary documentation checks take place.

There is no international inspection office in Cancun because there are only marinas and it is not a commercial seaport.

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

Movement of birds and of poultry products and byproducts are subject to the restrictions indicated in SAGAR regulations.

Movements

The table below shows the number of birds that have come into the state in the past two years, and the number of seizures:

Commodity	1996	1997	Seizures		Cause
			1996	1997	
Live birds	2'624,528	3'887,675	44	15	Lack of official documents.
Products (tons)	13,352.91	15,169.33	0.054	0.037	Lack of official documents.

Sanitary treatments were applied to 1512 vehicles that entered the state during this period.

IX.- ANIMAL DEMOGRAPHICS AND MARKETING PRACTICES IN THE REGION

Most of the birds and poultry products that come into the state originate in Yucatan, the main supplier for Quintana Roo.

The present stock amounts to 413,919 birds on 11 technified farms and 384,596 birds in back yard flocks, in the three DDRs in the state.

Technified Poultry Farm Inventory in the State of Quintana Roo, 1998

MUNICIPALITY	FARM NAME	BIRD POPULATION
FELIPE CARRILLO PUERTO	AVIPRODUCTOS SANJOR	181,286*
	IND. AVICOLA DEL SURESTE	170,833*
	CBTA No. 80	6,000
	MANUEL CARDEÑA	6,000
	RAMON SANTOS	36,000
	NUIGEL LOPEZ	2,400
JOSE MARIA MORELOS	ESC. TEC. No.15	1,200
	EJ. PLAN DE LA NORIA	600
	CARLOS CETINA	7,200
	JUAN ALAMILLA	1,200
	PAULA CASTILLA	1,200
TOTAL		**413,919**

*Estimated number of birds per productive cycle, considering six cycles a year.

Back Yard Flock Inventory in the State of Quintana Roo, 1998

MUNICIPALITY	TOTAL NO. OF PROPERTIES	BIRD POPULATION
OTHON P. BLANCO	13,263	198,940
FELIPE CARRILLO PUERTO	3,095	46,430
JOSE Ma. MORELOS	3,327	49,911
LAZARO CARDENAS	1,956	29,342
COZUMEL	0	0
BENITO JUAREZ	571	8,573
ISLA MUJERES	387	5,800
SOLIDARIDAD	3,040	45,600
TOTAL	**25,639**	**384,596**

X.- EMERGENCY RESPONSE CAPACITY

GEESA.- This regional group was established in June, 1995, and is made up of 36 veterinarians from the states of Yucatan, Campeche y Quintana Roo.

Training.- A training program in epidemiological surveillance was given in June, 1997, to 42 technicians from Yucatan, Campeche and Quintana Roo, who work in the SAGAR state delegations, state governments, swine, cattle and poultry producer associations, directors of zoos and animal health diagnosis laboratories, GEESA groups, state Livestock Promotion and Protection Committees, coordinators of the national Bovine Tuberculosis and Brucellosis Eradication Campaign, approved veterinarians, and veterinarians in private practice.

ANNEXES

1.- SAGAR Federal Structure in the State of Quintana Roo.

2.- Rural Development and Economic Promotion Secretariat.

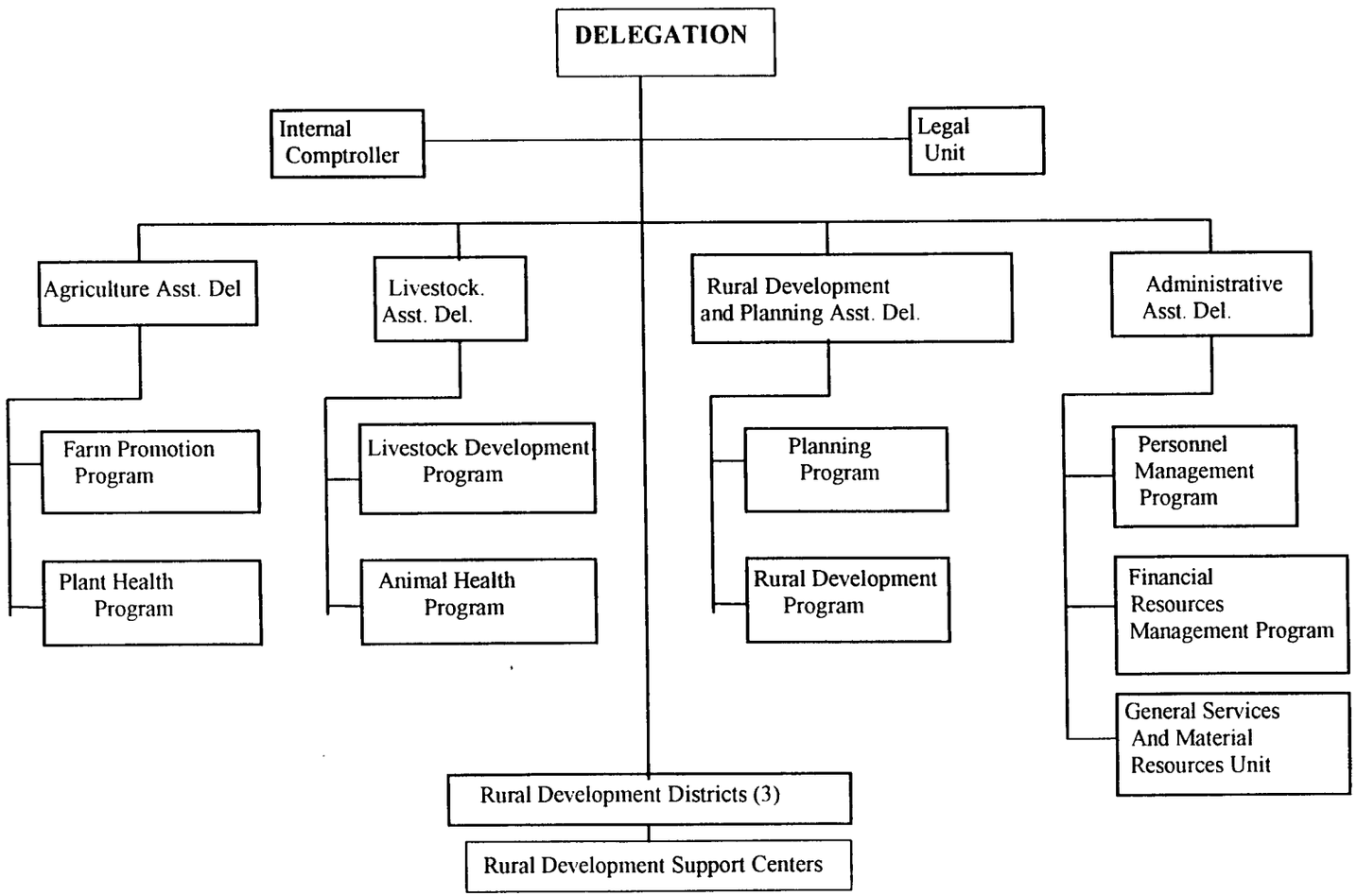
3.- Geographical Location of the State of Quintana Roo.

4.- DDR Map.

5.- Regional Quarantine Cordons.

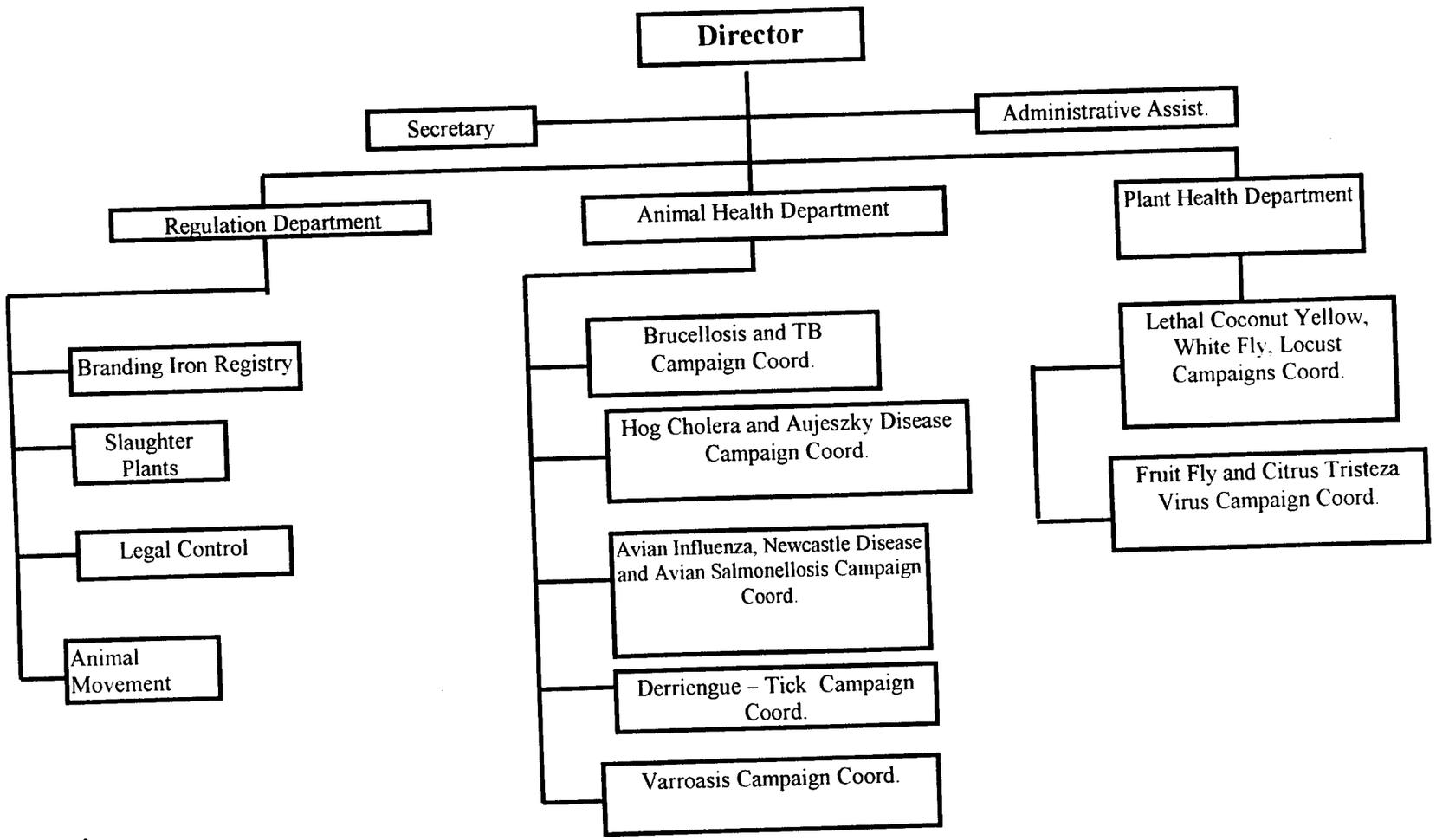
Annex 1

SAGAR Federal Structure in the State of Quintana Roo



Annex 2

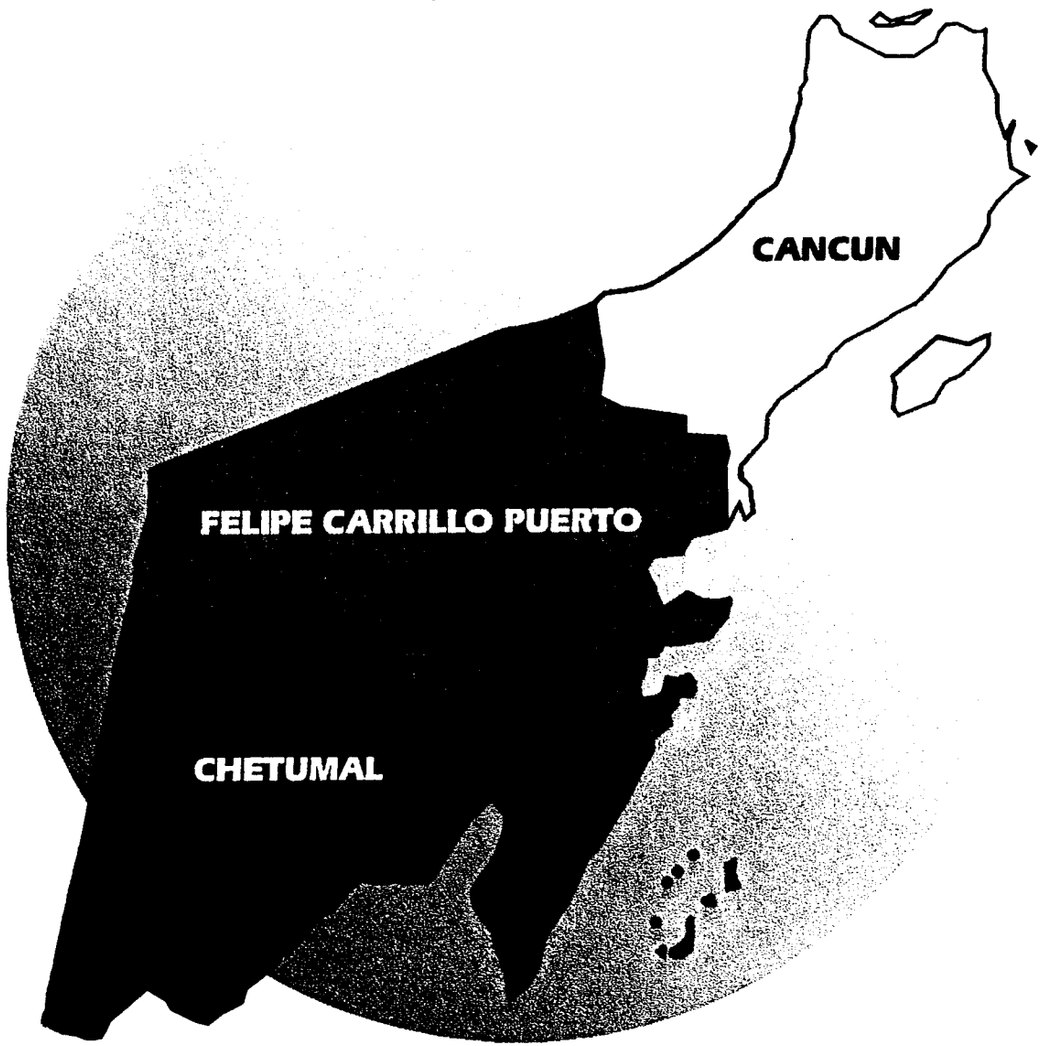
ECONOMIC PROMOTION AND RURAL DEVELOPMENT SECRETARIAT



GEOGRAPHIC LOCATION.STATE OF QUINTANA ROO

RURAL DEVELOPMENT DISTRICTS

QUINTANA ROO



REGIONAL QUARANTINE CORDONS