

# The history of ASF eradication and the major measurement and experience in Cuba

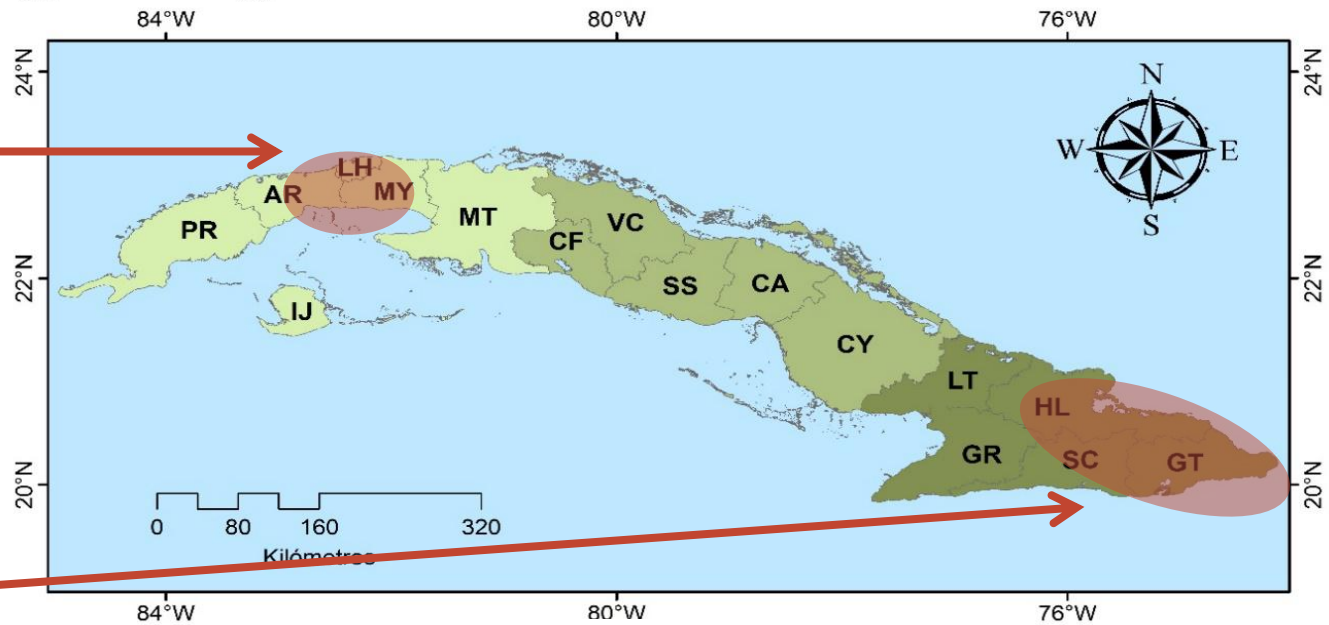
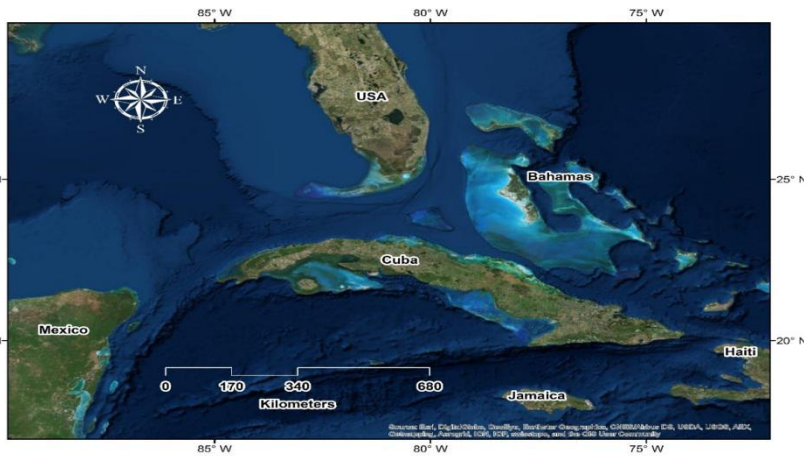
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International Symposium on Prevention and Control of ASF  
Beijing, China, April 9, 2019

# BACKGROUND

- Pork meat as an essential component in the traditional diet of the Cuban people.
- Increased and intensive genetic development of swine breeding with the Revolution Triumph in 1959
- Strengthening of the veterinary services with the creation of the Institute of Veterinary Medicine (IMV) in 1963 (today National Animal Health Division, DSA).
- Development of veterinary researches and diagnosis of emerging diseases with the creation of the National Center of Animal Health (CENSA) in 1969

# ASF Eradication in Cuba



197

Two former  
Habaneras  
provinces

198

- Guantánamo
- Santiago de Cuba
- Holguín

## Legend

**Western region**

- IJ - Isla de la Juventud
- PR - Pinar del Río
- AR - Artemisa
- LH - La Habana
- MY - Mayabeque
- MT - Matanzas

**Central region**

- CF - Cienfuegos
- VC - Villa Clara
- SS - Sancti Spiritus
- CA - Ciego de Ávila a
- CY - Camagüey

**Eastern region**

- LT - Las Tunas
- GR - Granma
- HL - Holguín
- SC - Santiago de Cuba
- GT - Guantánamo

# ASF Diagnosis

- ✓ The diagnosis was developed by specialists of the Animal Virology Laboratory of the National Center of Animal Health (CENSA) in both outbreaks (1971 and 1980).
- ✓ 1980: With CENSA's specialists and the needed equipment, the diagnosis was carried out in the Province Veterinary Diagnostic Laboratory in Guantanamo to avoid infected sample transportation .
- ✓ Sample transfer to CENSA from the eastern region was avoided through the non-affected provinces.
- ✓ The laboratory diagnostic tests were direct immunofluorescence, inoculation in culture of bone marrow leucocytes and biological test in hyper-immunized pigs against Classical Swine Fever (CSF).
- ✓ The clinic signs, pathological findings, and epidemiological behavior were consistent with ASF.



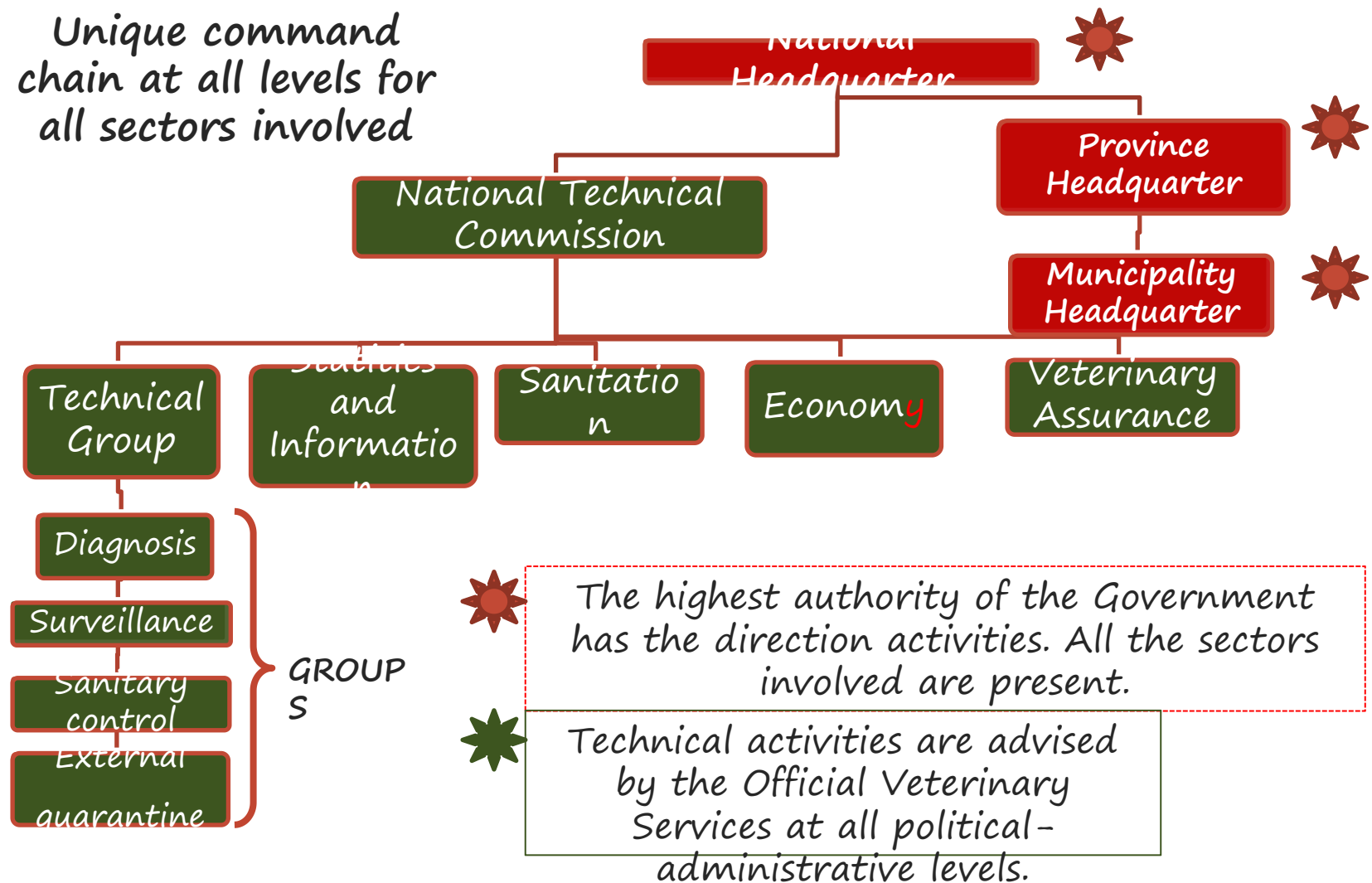
# Summary of ASF Outbreaks

	1971	1980
Affected region	Western	Eastern
Affected province/foci	Ciudad de la Habana (15) Habana (18)	Quantánamo (37) Santiago de Cuba (15) Holguín (4)
Total foci	33	56
Pigs in foci	32,524	2 ,704 (Quantánamo)
Dead	12,173 (37.4 %)	---
Burned	20,351	123,250
Slaughtered	463,322	173,287 **

\*\* Quantánamo: 61,615 pigs + consumed pigs previous to ASF notification

# Technical-administrative structure to confront a sanitary emergency (disaster situation)

Unique command chain at all levels for all sectors involved





# CUBA

## ASF Eradication

1971

Sanitary Emergency: affected territories

La Habana province

Laboratory confirmation

Control activities, intensive surveillance

Quarantine and Recovery.  
Sentinel pigs in focal areas (45-50 days),  
Slaughtered and tested for ASF

May 6

Jun 17

Stamping out in two affected provinces and their bordering provinces (5 Km)

Gradual repopulation was carried out

Fattening farm (11 425 pigs); dissemination to other 3 units (9 000 pigs); later to Havana City province.

1971

August 1972

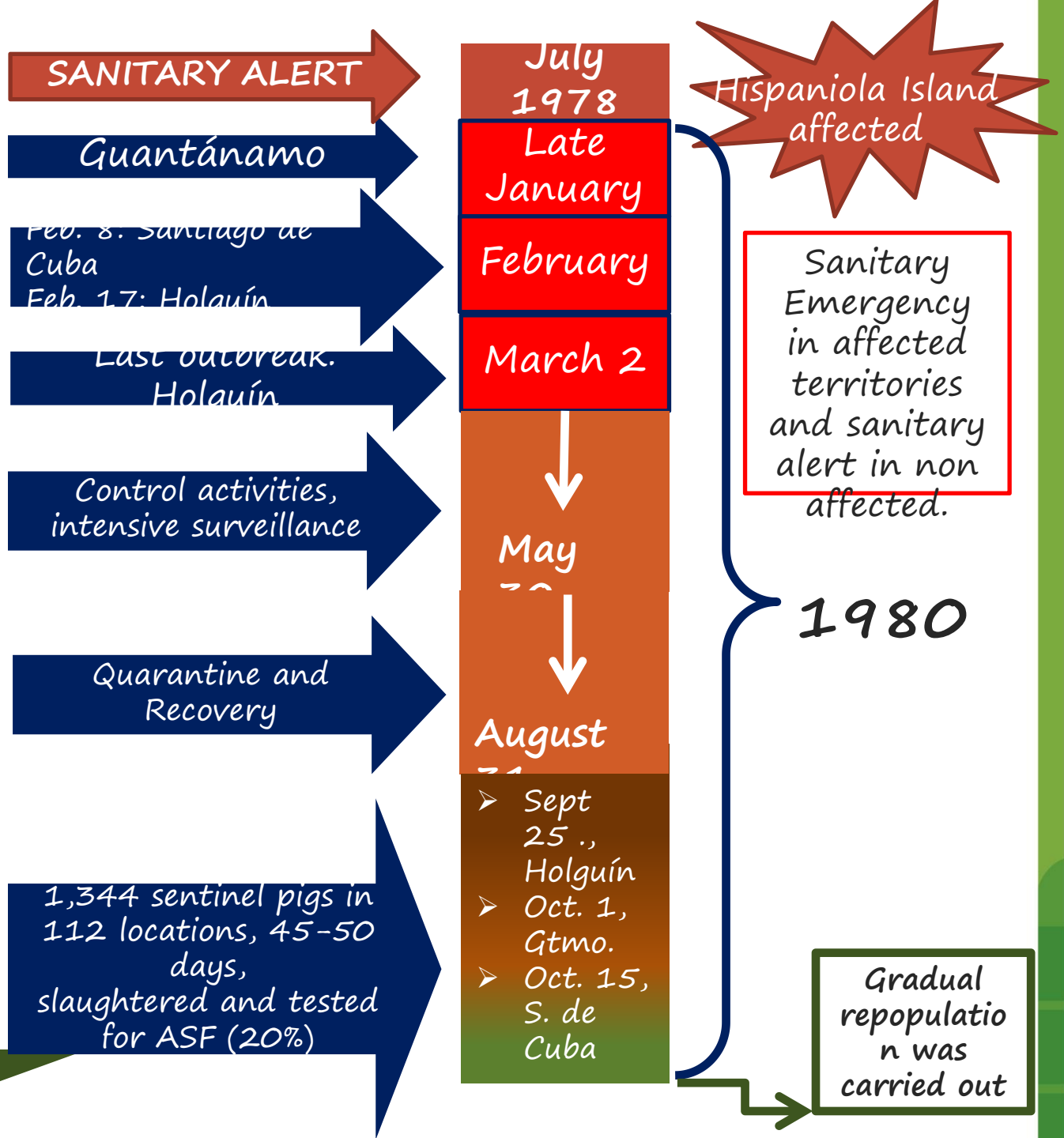
# ASF, Cuba 1971. Main facts

- In 1971, the principal pig genetic centers were in western provinces (La Habana).
- The planned development of swine production was seriously affected.
- Intentional introduction (bioterrorism) was confirmed by the responsible agent in a newspaper (USA).
- Backyard production was banned in the affected provinces until 80's decade.
- The lessons learned led to a new strategy for the intensive and technified swine production system at national level: almost all provinces should develop their genetic farms for self-replacement in their respective territories.
- Biosecurity systems was strengthened in intensive swine production
- ASF was included in the veterinary undergraduate and post-grade education.
- The raising awareness of the ASF threat is key for all the



# CUBA

## ASF Eradication 1980



# ASF, Cuba 1980. Main facts

- *Guantánamo: 90,000 pigs; mainly in backyard raising, only 8,000 in semi-technified farms. In Baracoa was the first ASF detection.*
- *The Cuban eastern provinces have a mountainous geography.*
- *The probable date of ASF introduction (Late 1979 and New Year celebration with the traditional highest consumption of pork) helped disease dissemination.*
- *The disease spread from Guantanamo to the two bordering provinces through the trade of pigs and by-products*
  - ✓ *Only four (4) municipalities were affected in Santiago de Cuba.*
  - ✓ *Only three (3) municipalities were affected in Holguín.*
  - ✓ *Wild pigs were hunted and destroyed.*
  - ✓ *ASF dissemination was stopped promptly by strict quarantine measures and supervision and control at established inspection stations (railroads and train, port, airport).*
- *Supervision and control by inspection in all not affected*

# Foci sanitation

- ❑ *Stamping out, with compensation.*
- ❑ *Burial and burning on site of slaughtered pigs.*
- ❑ *Strict quarantine*
- ❑ *Initial sanitation:*
  - *Mechanic cleaning: Recollection and burning of residuals, food and objects in contact with pigs. Total elimination of raising facilities when disinfection was not possible.*
  - *Soil plowing with lime addition and weed mowing*
  - *Disinfection and disinfestation (insects and rodents) .*
- ❑ *Following with 3 disinfections between 10-15 days.*
- ❑ *Tracing with sentinel pigs: 45-70 days. The pigs were killed and tested for ASF with negative results.*

# ASF, Cuba 1980

Predominant clinical form	Acute and sub-acute
Morbidity and Lethality	Near to 100 %
Diagnosis: Positives / Cases	89 / 9,587
Provisional slaughterhouses	57
Surveillance	939 zones/134 municipalities
Wild swine captured	216
CSF Vaccination	3,478,308 pigs
Erisypelas Vaccination	917,601 pigs
Control and Inspection	229 stations
Disinfection	More than 6,000 m <sup>2</sup>
Sentinel pigs (Eradication phase)	1 344 pigs /112 locations (56 foci) (All they negative)

# ASF, Cuba 1980. Economic assessment

Burned pigs :

936,994 \$



Pork meat save fried (healthy pigs):  
Consumption only allowed into affected areas  
~~1,041,781 \$~~

Concept	Cuban currency
Dead or slaughtered pigs	1,078,739
Compensation to breeders *	4,218,074
Operational cost	3,972,962
Export losses	89,634
TOTAL	9,359,414

Exportation losses	\$ 2,29, 524	(oranges, grapefruits)
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\* Pig litters with no meat value were paid.

# ASF, Cuba 1980 (Cont.)

Mobilized personnel	42,312
Hours	More than 2 millions
Vehicles	936
Hours	130,468
Fuel	193,125 gal

- The total cost was not higher due to the quick eradication decision made by the Central Government.
- The role played by the people and social organizations was essential for the success of the



# Others facts

- Fewer pigs were slaughtered in 1980 than in 1971.
- The affected area in the eastern region in 1980 was more extended than the area affected in the western region in 1971, and it had a higher pig population density.
- Taking into account the mountainous geography and higher pig population in backyard raising, surveillance and control activities were more difficult in the outbreak of 1980 than in the previous outbreak (1971).
- After 1980, the national surveillance system included some syndromic surveillance principles: compulsory and rapid notification of all disease suspicions in pigs with hemorrhagic lesions and the laboratory diagnosis to rule out ASF (CSF endemic and herd under vaccination program; presence of swine erysipelas).



*Thanks*

*Mercy*

*Gracias*