Master of Public Health
Public Health Field Experience

Joan Talbott, DVM
Kansas State University
Summer 2008
Goals

- Foot and mouth disease
  - Introduction through Hemispheric FMD Eradication Program
  - FMD epidemiology
  - FMD eradication and control programs
Goals

- Public health
  - Introduction to public health on national and international levels
  - Governmental and non-governmental organizations
Buenos Aires, Argentina

- Weeklong Spanish language training

Plaza de Mayo
Rio de Janeiro, Brazil

- RIMSA 15 Conference
- PANAFTOSA
MPH Supervisor

- David Ashford, USDA-APHIS
RIMSA 15

- Inter-American Meeting at Ministerial Level on Health and Agriculture
- Theme: Agriculture and Health: Alliance for Equity and Rural Development in the Americas
RIMSA 15

- Speakers from Canada to Uruguay
- Topics ranged from human healthcare in rural areas to agrotourism and ecotourism to health and animal production in Brazil and South America
GEIFA

- International working group for the eradication of foot and mouth disease
- Phil Bradshaw, President
PAHO department responsible for vesicular diseases, zoonoses and food-borne illness for all of South America
PANAFTOSA

- Jorgen Schlundt, WHO Director of Food Safety, Zoonoses, and Foodborne Illnesses
PANAFTOSA – FMD History

- 30 years ago
  - 3,000 outbreaks in Brazil
  - Aluminum-adjuvented vaccine

- 1986
  - Tri-valent, oil adjuvented vaccine
PANAFTOSA – FMD Epidemiology

- Epidemiology of FMD dependent on:
  - Movement of animals throughout different stages of development (cow-calf to finishing)
  - Illegal movement of animals across international borders for higher market prices
  - Ecological conditions
Paraguay – Chaco region

Epicenter of sporadic FMD serotype O outbreaks over past 10 years
PANAFTOSA

- USDA-FSIS Import Risk Analysis Team
Paraguay

Chaco

Asuncion
Asuncion, Paraguay – our host family
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Paraguay

- Asuncion
  - SENACSA
  - Rediex
  - IICA
  - ARP
  - EXPO

- Chaco
  - Cooperativa Fernheim
SENACSA

- Servicio Nacional de Salud Animal
SENACSA

- Dr. Hugo Corrales, President
- Dr. Primo Feltes, Director of Technical Services
- Dr. Gloria Alaracon
- Dr. Victor Maldonado
- Dr. Norman Ramirez
SENACSA

- National Laboratory
  - FMD, Rabies, EIA, CSF, Brucellosis, TB, AI, BSE, Exotic Newcastle Disease
- BSL 3 construction to begin soon
SIGOR II
- National database including every premise, cattle owner, FMD vaccination record, and COTA sanitary certificate

GPS Mapping – Zona Alta Vigilancia
SENACSA

- SITRAP
- National traceability system
- Approved by EU
- Only 38 premises enrolled at time of visit
SENACSA - SITRAP
SENACSA – Control Points

- National
  - 21 throughout Paraguay
  - All trucks required to stop
  - COLCAT security present
  - Animals and documentation inspected
  - Quarantine areas
International
- Puerto Falcon – Argentina border
- Private port on Paraguay River

Meat, not animals, shipped

Documentation, temperature inspected

Destination – Santiago, Chile, then shipped to Russia
SENACSA – Control Points
SENACSA – Packing Plant tour
SENACSA – Auction houses
SENACSA – Auction houses
Fiebre Aftosa - FMD
SENACSA – FMD Vaccination Protocol

- Every 6 months
- SENACSA officials (fiscalizadores) must be present
- Zona Alta Vigilancia – different schedule
SENACSA - Fiscalizadores

• All cattle vaccinated

• Cold chain for vaccine is preserved

• All documentation is correct
FMD Vaccination–Ceremonial Opening
SENACSA – Zona Alta Vigilancia

- Location of last FMD outbreak
- Brazil border
- 15 km either side of the border
- SENACSA works in cooperation with Brazilian officials
Zona Alta Vigilancia
SENACSA – Zona Alta Vigilancia

- FMD Vaccination begins earlier
- All animals receive eartag at time of vaccination
  - Red – Paraguay
  - Green and yellow - Brazil
SENACSA – Zona Alta Vigilancia
SENACSA – Zona Alta Vigilancia
ARP – Association Rural Paraguay

- National organization for agriculture
- Marcos Medina – Technical Advisor to President of ARP
- Powerful within Paraguay and Mercosul
  - Only agricultural association in Paraguay
  - Monetary support
EXPO

- National “fair” held annually
- Several smaller expos and rodeos held by state associations
- Cattle judging one of the main attractions
- Carnival environment
EXPO
IICA

- Inter-American Institute for Cooperation on Agriculture
- Provides technical support and expertise to both public and private sectors toward agricultural development
Facilitates trade (mainly exports) with other countries

Brings together all players in one industry to discuss export goals and how to achieve them
Western Paraguay - Chaco

- Chaco environment
- Rainy season November – February
- “Green Hell”
  - Very thick brush and trees full of thorns
  - Poisonous snakes, jaguars, pumas and others
Chaco – “Green Hell”
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Chaco - Mennonites

- Settled area in late 1920’s, early 1930’s
- Some from Canada, some from Russia
- Formed cooperatives immediately
- Productive area
  - Dairy, beef, peanuts, cotton, milo, etc.
Cooperativa Fernheim

- Filadelfia, Paraguay
- Largest of Mennonite colonies
Assistance Technica Fernheim

Provides services to cooperative members

- Veterinary care
- Forestry
- Soil consulting
- Land surveying and mapping
ATF
ATF – Veterinary services

- 6 veterinarians on staff
- Some horses and small animals
- Mostly beef and dairy cattle work
  - Pregnancy palpation
  - BSE’s
  - Injuries
  - “Tristeza” or tick fever
Tristeza

- Spanish term
- 3 tick-borne diseases
  - Anaplasmosis
  - Babesiosis
  - Piroplasmosis
- Disease of growing concern in Chaco
Anaplasma marginale survey

- Sponsored by Cooperativa Fernheim and ATF
- Cross-sectional survey
- 13 herds, 500 animals sampled
- Both beef and dairy cattle
- c-ELISA test used to determine animals with carrier status
Anaplasma marginale survey
Anaplasma marginale survey
Anaplasma marginale survey

- **Results**
  - 6 of 13 herds 100% positive for antibodies
  - All herds at least 70% positive

- **Recommendations**
  - Vaccination not necessary
  - Naïve animals should be exposed either naturally or by vaccine to disease
  - Current treatment protocol should be continued for clinically ill animals (tetracycline antibiotics and NSAID therapy when deemed necessary)
Conclusions – Paraguay & FMD

- Advantages
  - Mennonites
  - Attitude of openness
Conclusions – Paraguay & FMD

- Challenges
- Chaco
  - Environment
  - Lack of infrastructure
- SENACSA – lack of support from National government
Conclusions – Goals met

- FMD – the disease and eradication efforts
  - SENACSA
  - PANAFTOSA
- Public Health
  - RIMSA 15
  - PANAFTOSA
- Trade Issues
Recommendations for future students

- Take the opportunity!!
- Learn Spanish prior to going
- Be flexible
Thanks

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- Cooperativa Fernheim and ATF
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