

NEW CALEDONIA Example of Bovine babesiosis eradication

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New-Caledonia

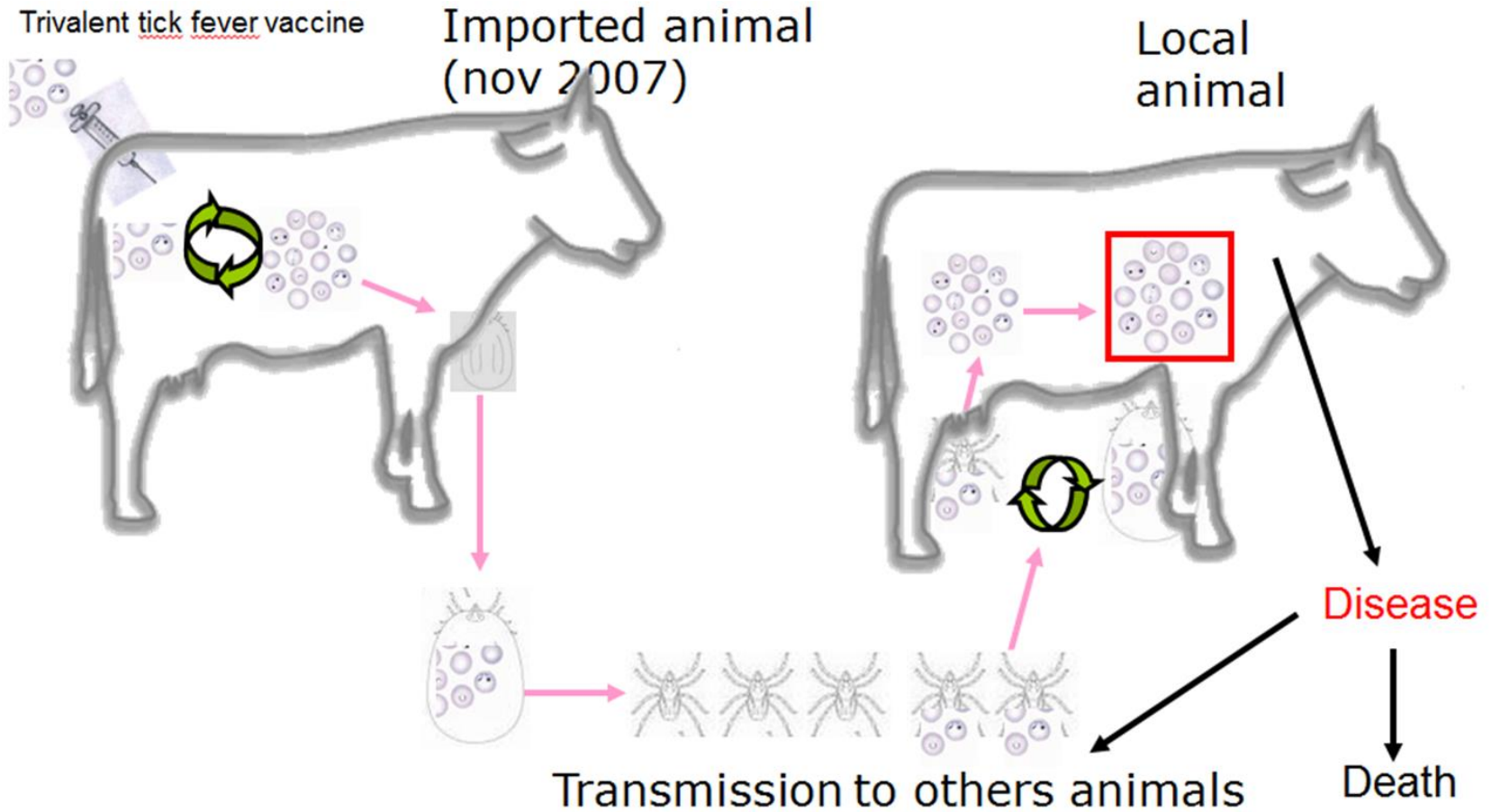


- 650 farms
- 80 000 cattle
- Mainly taurin breeds and some zebus



- *Rhipicephalus microplus*
- No other tick-borne disease

Origin of the outbreak



Origin of the outbreak

- Second outbreak
 - 20 years apart : 1988- 2008
- 22 farms concerned
 - 17 which have received imported animals
 - 5 which had contact with imported animals
- Total of animals : about 5 000



Eradication strategy

- Criteria for the choice of eradication:
 - *Rhipicephalus microplus* widespread in NC
 - *Bos taurus* cattle highly susceptible to ticks and to the disease
 - Evaluated cost of the disease was very high
 - Only a few months since the importation- limited number of farms - High value animals
 - Good diagnosis capability
 - Good veterinary network and veterinary services



Eradication strategy

- Measures of eradication:
 - Zonation: 1-Infected / 2-Suspect / 3-Buffer zones. Identification of all the animals
 - Aggressive tick control during 6 months :
 - Control of acaricide efficiency,
 - Dip/spray of amitraz 12,5% less than 20 days apart
 - Or long-lasting acaricide (LA ivermectin / fluazuron), every 6 to 8 weeks

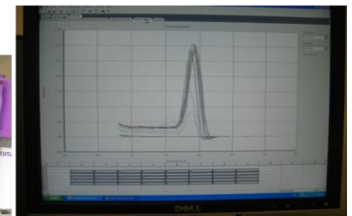
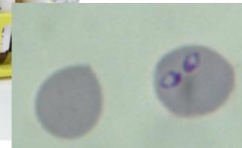
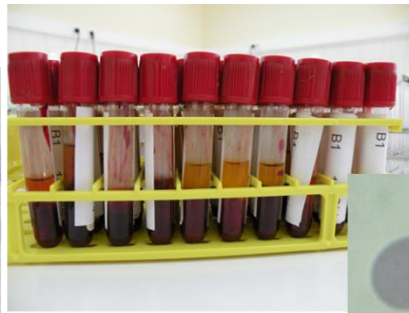
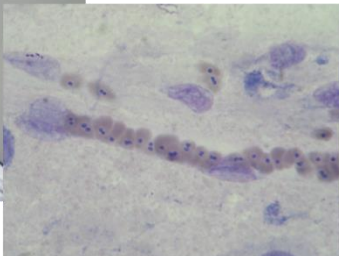
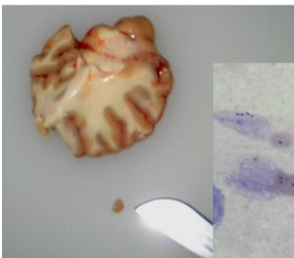


To break tick cycle and babesia transmission



Eradication strategy

- Measures of eradication:
 - Treatment Zones 1-2: Imidocarb dipropionate injection 3 times, 1 month apart
 - Blood samples for ELISA and PCR taken 4 times 2 months apart
 - Smear (Brain/blood): only method available at the beginning of the outbreak
 - ELISA: quickly developed (within the first month)
 - Real time PCR: developed within a few months



Policy and legislation

- General regulation:
 - Notifiable diseases : all OIE listed diseases + other important diseases for NC
 - Deliberations n°153 (public veterinary health in NC) and n°154 (veterinary health policy of NC) dated 29th of December 1998
 - Decree N° 2014-333/GNC, dated 13th February 2014 on conditions for importing products presenting a health risk.

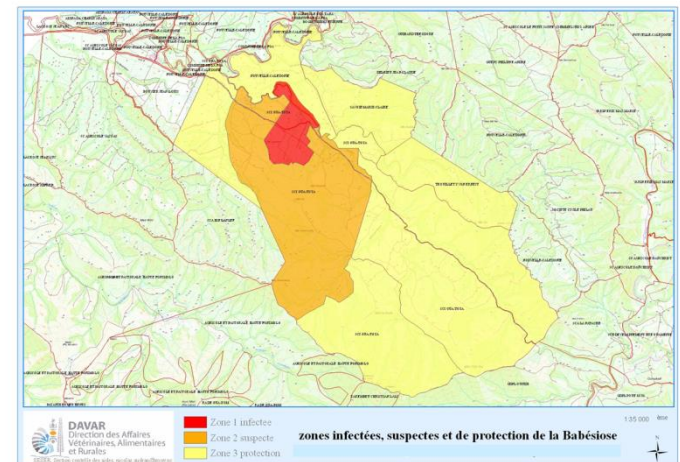


Policy and legislation

- Specific regulation:

Several decrees adopted since 2008

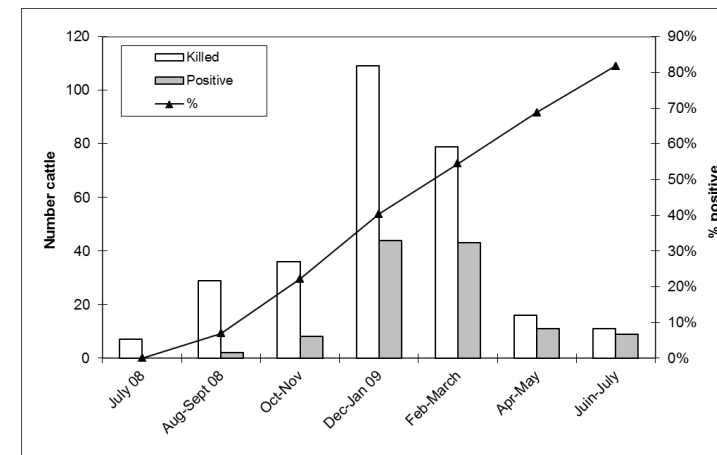
- List of the farms in each zone
- Definition of the confinement and complementary measures for zones 1-2-3
- Definition of specific measures for a property with wild cattle



Finalization



- At the end of 2009:
 - Only 1 “farm” with positive feral cattle (100heads/1000Ha)
 - Contamination with the neighboring farm (with imported animals): bad fences
 - More than 250 animals killed in 2008-2009, and 100 from 2009 to 2017: access more difficult – vegetation density
 - Increase of the disease prevalence



Finalization



- In 2011:
 - Conflict farmer / land owner on a customary land in suspect zone (with negative result since 2008)
 - More than 300 heads of cattle held with no access for farmer nor SIVAP: No fence control–No cattle breeding operation-No babesiosis test
 - No solution until 2016 (specific laws on customary lands): SIVAP negotiation with owner for hunting of 20 heads: done in June 2017 **Positive results**
 - Problem of cattle movement: contamination
 - **Elimination of all the animals compulsory** but became feral

Finalization

- In 2017:
 - A farmer introduced cattle on a part of his farm in the infected zone
 - Problem of fences: contact with feral cattle
 - Testing: **positives results with very high prevalence**
 - Decree January 2018
 - **Slaughter of all the herd (80 heads):** end February 2018

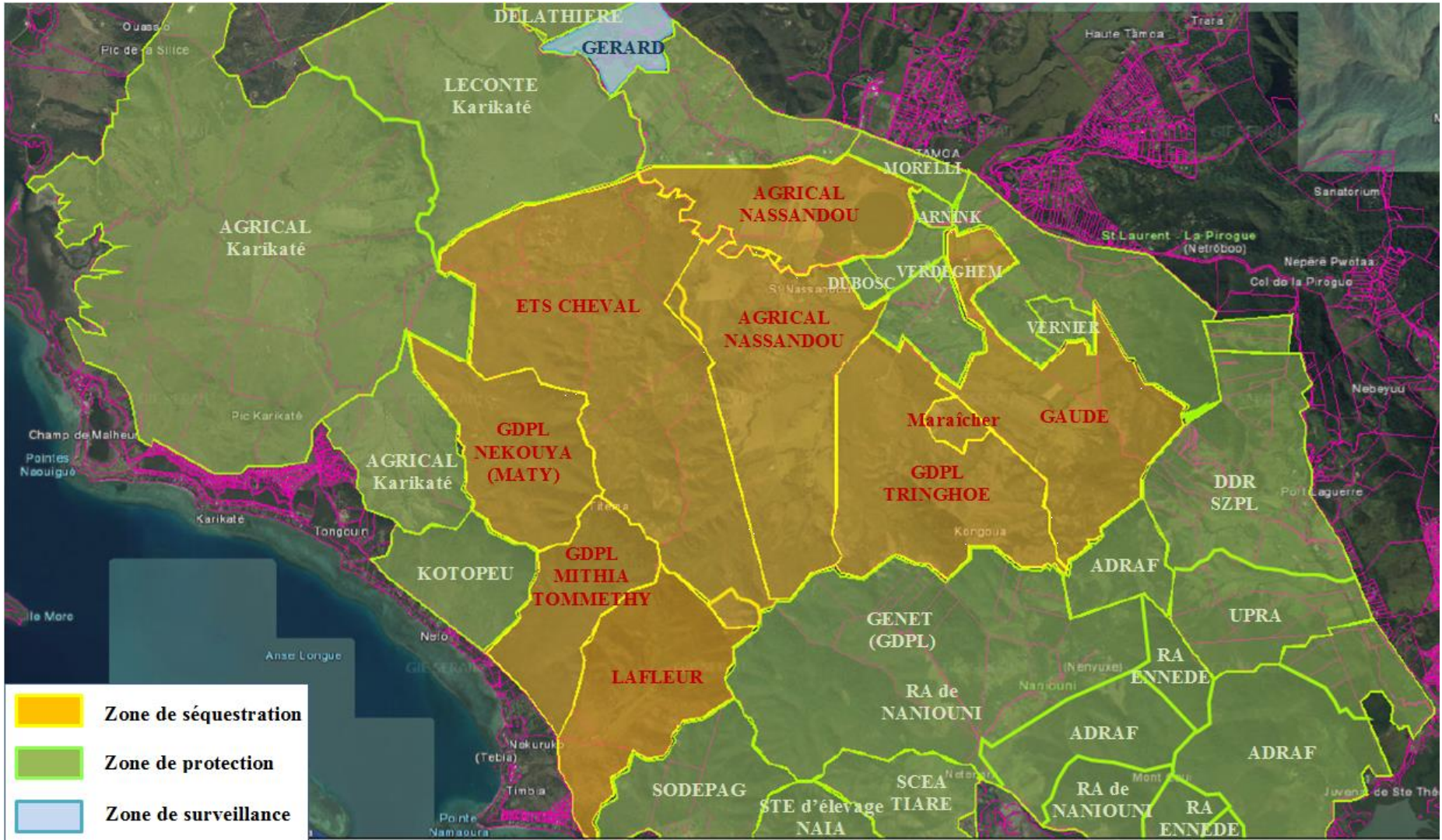




Finalization



- Today:
 - Eradication of the 300 heads of feral cattle ongoing
 - Around 40 bulls hunted (to allow grouping herds)
 - 60 heads captured and slaughtered at the abattoir
 - Lot of work on fences
 - Finalization of the eradication of the 10 heads of feral cattle of the first property: problem of vegetation (bulldozer)
 - New conflict farmer / land owner on a farm in suspect zone (around 300 animals tested negative in Jan 2018)
 - Testing: all the animals of the farms in the 3 zones (around 4 000 blood samples every 6 months : negative results)



Finalization



- Cost:
 - Babesia treatment: payed by Australia
 - Tick prevention: payed by NC gov since tick introduction (during 2nd world war)
 - Testing: 100 000 USD 1st 2 yr then 40 000 USD / yr
 - Private veterinarians (bleeding, trt): 110 000 USD 1st yr then 60 000 USD for 2 yr and around 2 000 USD/yr until now
 - Financial compensation (for breeders and feral cattle elimination): Total 6 000 000 USD
 - Case of the 300 heads of feral cattle: 650 000 USD (cattle and fences)

Lessons learned: Benefits

- Efficiency of the early warning system
- Good diagnosis capability: quick confirmation of the disease and laboratory reactivity to develop ELISA and PCR
- Regional and local coordination with stakeholders
- Immediate notification to OIE within a few days
- Novel eradication strategy (treatment) : worked.
- General regulation in place (steps of the emergency plan)
- Good reactivity of the legislative system (first decree 3 days after detection): zonation – control measures
- Good communication and involvement of the breeders
- Serological surveillance on all the animals in the concerned farms twice a year (since 2008 until now)
- Testing on animals leaving zones 2 or 3
- Financial compensation for breeders and important budget available

Lessons learned: limitations

- Even with good quarantine procedures and premises, pathogens introduction is still possible
- 95% eradication in less than 2 years but more 8 years for 1 zone and it's not finished: finalization of the eradication too long
- Important financial, personal and technical resources necessary
- Poor fences condition: cattle movement, ticks and disease spread
- Problem of feral cattle on neighboring properties
- Lack of involvement of the feral cattle owner
- Administrative penalties defined in the regulation but not applied
- Very important cost (compensation for feral cattle)

Suggested solution

(in case of other VBD outbreaks)

- Update the emergency plan: write a global emergency plan and specific documents for each important disease (in progress).
- Test the plan
- Strengthen the sanctions: so that people meet the conditions of the law
- Develop our wild-life surveillance network with the different associations and organisms for better collaboration and communication

A large herd of brown cows is being herded by riders on horseback in a green field. The herd is moving along a dirt path that curves to the right. Two riders are visible in the foreground, one on the left and one on the right. The background shows a green hillside with a fence line. The text "MERCI POUR VOTRE ATTENTION" and "THANK YOU FOR YOUR ATTENTION" is overlaid in the center of the image.

MERCI POUR VOTRE ATTENTION
THANK YOU FOR YOUR ATTENTION