Evolution of French policy measures to control bovine tuberculosis in regards to epidemiological situation

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Overview of the presentation

- **Aim:** To put the current BTB French situation into historical perspective in terms of policy response to a given sanitary situation.

- **Method:** Review of French regulation, archives of technical veterinarian reports available at the French Ministry of Agriculture, search on the internet.

- **Disclaimer:** not a research work.
First attempts to fight the disease

Clinical description and loss in production
Veterinarians describe some areas with more clinical cases (dairy)

1838, BTB pulmonary consumption becomes a cause for rescission of sale

Progresses on the idea that BTB is zoonotic
Descriptions of human to cattle transmission in 1882, veterinarians inoculated at cattle postmortem, children infected through raw milk consumption, families infected by warming up in the cowshed

In 1888, BTB becomes regulated: mandatory notifications, prefectural act stating infection in farms, slaughtering of diseased animals, cleaning and disinfection of premises

Within two years, slaughterhouses see the drop in detected lesions (10% to 2.5% in Toulouse): farmers avoid the risk of seizure, in 1895 the policy is abandoned (idea to compensate farmers)
A new attempt in the 1930's

Veterinarians consider that they have a poor knowledge on the situation, very few notification of cases

Low infection if within herd prevalence <30%

2% to 11% of human cases could be linked with BTB

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Ten years of public discussion → Law of the 7th of July 1933

Public health: meat inspection – destruction of meat and milk of clinically affected animals

Animal health: prophylactic screening giving official status – rescission of sale – vaccination of calves in highly infected herds

Economic incitivies: subsidies for testing after elimination of clinical animals - Compensation of 40% of animal value and 30% of disinfection costs - Help to upgrade sheddings – subsidies for vaccination
In the 1950's a sustainable attempt

Geographical stability
Prevalence underestimated
98% of removed reactors present lesions
A major public health issue
Debate on vaccination (30k doses/y): efficient in some conditions, problem of interference

Brassier, 1952

In 1954 a new law defines the objectives of the policy: to protect public health, to limit economical loss, to develop international trade

Collective voluntary programmes: compulsory in a département if more than 60% of farmers involved, promotion of farmer's associations (GDS), public awareness on radio

Routine testing with skin test and removal of reactors
Milk supply of cities only by officially free herds
Extension of the program in the 1960's

Perception of the situation
Rate of reactors decreased from 15% down to 1,5%
« The end of the eradication is near, the disease persists only in small herds in some areas »
Growing concerns about false positive reactions and reinfection
Interest in the roles of other domestic species

New national acts+ Directive CEE/64/432
All forms of BTB are notifiable, post mortem in Ov, Cp, Pc, Eq
Generalised programme: status for all herds, test at introduction, removal of reactors, rarely stamping out
Possible reduction of screening frequency according to incidence
Scientific standards for tuberculin
Compensation only for farmers joining GDS
40 years of successful programme

In 1978, interdiction of vaccination

In 1990, objective is to protect cattle, to qualify all herds as OF and to clean up infection, first epidemiological investigations, use of SICCT

In 1999, laboratory testing at post mortem, stamping out generalised, risk based surveillance: follow up of infected herds for 10 years

In 2001, recognition of national Officially free status

The incidence rates constantly decrease (as well as the predictive positive value)

The clinical disease becomes an exception

As an average, 3 cattle with lesions in infected farms

Bénet, 2006

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BTB appears as a disease of the past

In 2003, new regulation to protect the good situation and set up a surveillance network with systematic bacteriological confirmation lightening in-herd testing (63 departments stopped routine cattle testing + reduction of mouvement testing)

Systematic epidemiological investigations and total cull except for rare breeds
Late 2000's, BTB strikes back

Ponctual detection of cases at slaughterhouse in some areas →
Local in farm surveillance strengthening but economical loss for 15 % to 50% of farmers with reactors and very few confirmed results (5%) (many atypical reactions)

Lack of social acceptability of stamping out
Misperception of the problem (in excess or in default)
National strategy to eradicate BTB

**November 2010 107 actions: in three axes**

**Biosecurity**

- In farm biosecurity and pre-movement testing
- Wildlife: regulations, research, reduction of density

**Pursue eradication**

- Risk based surveillance in cattle and wildlife
- Cleaning up infection: stamping out or partial culling according to the situation, thorough epidemiological investigations
- Aleviation of poor positive predictive value by speeding up management of low risk suspicions (PCR, Gamma interferon)

**Steering and involvement**

- Commitment of stakeholders: steering committee + ESA-Plateform
- Communication, education/training and awareness
- Ressources allocation: compensations, laboratory tests
- Regional coordination to cope with heterogeneity of situations
- Better scientific and collective expertise and data follow up
Current situation

3 areas = 75% of cases - 70% of cases detected in farm
Locally wildlife infection reaches 3%-5% (same strains as cattle)

In 80% of infected farms, 1 to 3 positive animals, (1 is the mode)
Infected farms are typically large beef farms with many different origins and possible contacts in fields with wildlife
## Tentative synthetic comparison

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<th>XIXth</th>
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<td>Sale rescission Notification of cases Removal clinical</td>
<td>+ routine testing Removal reactors Qualifying herds Test at introduction</td>
<td>Risk based surveillance Biosecurity Fast procedures</td>
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The way forward

Targets

To monitor the efficiency of the policy
To include sociological approach
To effectively increase biosecurity to control of risk factors

Questions

How to control wildlife infection?
How to cope with constraints on human resources?
Should we target a disease or a germ?
Thank you for your attention

http://www.plateforme-esa.fr


http://www.afssa.fr/bulletin-epidemiologique/
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