

Favourable surveillance results on **enzootic bovine leucosis** in France in 2014: officially disease-free status is maintained

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Abstract

France has been officially disease-free with regard to enzootic bovine leukosis in cattle, sheep and goats since 1999. Annual incidence remains below 0.01%. The aim of surveillance is to maintain the officially disease-free status and to detect any recurrence of enzootic bovine leukosis. All the cases detected in 2014 presented only serological reactions, which is consistent with the disease's pathogenicity, with less than 10% of infected animals developing tumoral forms.

Keywords

Enzootic bovine leucosis, Surveillance, Programmed surveillance

Résumé

Bilan favorable pour la leucose bovine enzootique en France en 2014: maintien du statut officiellement indemne
La France est reconnue officiellement indemne de leucose bovine enzootique chez les bovins, ovins et caprins depuis 1999. L'incidence annuelle est inférieure à 0,01%. La surveillance a pour objectifs de préserver le statut officiellement indemne et de détecter une éventuelle recrudescence des cas. Les cas détectés en 2014 ne présentaient que des réactions sérologiques ce qui est cohérent avec la pathogénie de la maladie pour laquelle moins de 10 % des animaux infectés développent des formes tumorales.

Mots-clés

Leucose bovine enzootique, surveillance, surveillance programmée

Screening

The surveillance and control system for enzootic bovine leukosis (EBL) was the same as that used in previous years (see [Box](#)).

In 2014, 36,141 herds accounting for 16% of French cattle herds underwent serological testing: 70% of these holdings (25,482) were tested using blood tests, and 30% (10,659) by milk testing.

Suspected cases

Of the 10,659 herds screened through milk samples, 69 (0.64%) gave an unfavourable result initially. Of these, 28 (40.5%) again had a positive result on serological retesting of pooled milk.

Of the 25,482 herds screened through blood samples, 20 (0.07%) had at least one positive result in pooled sera analysis. This resulted in individual serological retesting of 62 animals.

For investigation of all suspected cases, 1,547 animals in 31 herds were tested through individual serological samples. These cases were under APMS either due to a second milk test that was unfavourable, or because at least one individual repeat serological control test was unfavourable.

Alongside repeat controls in accredited laboratories, the NRL examined 32 samples by agar gel immune-diffusion (AGID) coming from 29 herds in mainland France following suspected cases on screening.

Outbreak surveillance at the slaughterhouse identified suspicious lesions in two animals from two different herds (in the Calvados and Maine-et-Loire départements), but they were not confirmed.

Confirmed cases

Two herds (two animals) from Tarn-et-Garonne were declared infected. Both cases were detected through milk screening.

The positive animals were slaughtered and did not present typical lesions: within the limits of the specificity of the serological reactions, these cases were latent forms of the disease. There was no subsequent confirmation of the tumoral form of the disease.

Nationally, the annual incidence in 2014 at herd level was estimated to be 0.001% (2/218,157). Calculated as a function of the number of tested herds, the incidence was 0.006% (2/36,141). This incidence rate is extremely low and is consistent with that observed in previous years ([Figure 1](#)).

A decreasing incidence and relative stabilisation at levels lower than 0.01% have been observed over the past five years. The 2006 peak corresponded to false positives related to an ELISA kit that has since been taken off the market.

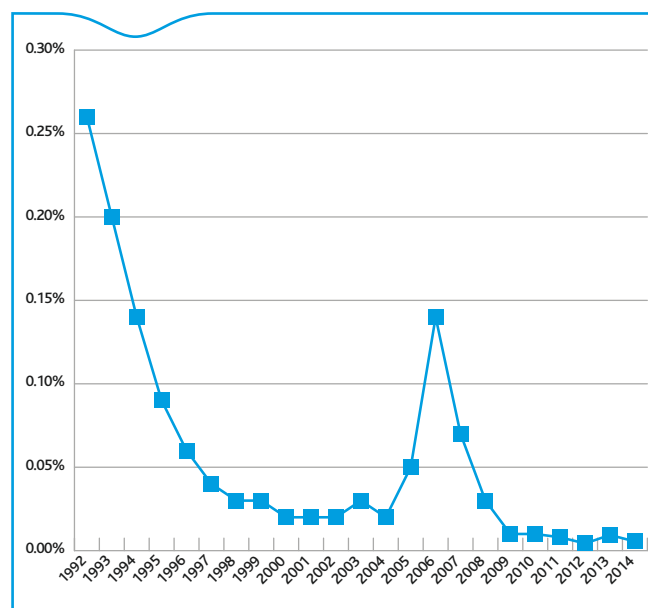


Figure 1. Change in incidence of enzootic bovine leukosis in mainland France from 1995 to 2014 (as a proportion of infected herds)

Objectives of the surveillance programme

- Verification of the country's officially EBL-free status.
- Detection of any recurrence of cases in domestic cattle.

The population monitored

Domestic cattle across France.

Surveillance procedures

Programmed surveillance

Surveillance by serological screening every five years using blood samples from at least 20% of animals over two years of age, or on pooled milk.

Outbreak surveillance

Surveillance of suspected enzootic bovine leukosis lesions at the slaughterhouse during systematic *post-mortem* examination.

Health control measures

Suspected cases of infection arise either when a positive result is obtained for a test performed on pooled blood samples or on pooled milk, or from suspect lesions identified histologically.

In this case, individual serological testing is performed on all animals over 12 months of age within the herd. If positive animals are detected, the herd is placed under Prefectural declaration of infection (APDI).

Cattle found to be infected are isolated and slaughtered within 30 days.

Disease-free status can only be regained after two rounds of serological testing on all animals over 12 months, with a three to six month interval between rounds.

Regulations

Council Directive 64/432/EEC of 26 June 1964, as amended, on animal health problems affecting intra-Community trade in bovine animals and swine, establishing requirements for control measures applicable to intra-Community trade and import of animal sperm from the swine species.

Ministerial Order of 31 December 1990 establishing the technical and administrative framework for collective prophylaxis and control measures for enzootic bovine leukosis.

Costs

The total amount spent by the State in 2014 for management of LBE, including health control measures and slaughter procedures, is estimated at around €17,000, a stable amount compared to previous years. Most of this budget (€11,630) was allocated to laboratory analyses.

The financial effort remains low and acceptable in view of the objective of maintaining the disease-free status in France.

Discussion

France has been recognised as officially EBL-free since 1999 (Commission Decision 1999/465/EC). The health situation concerning EBL is stable and highly favourable. The disease is well controlled in metropolitan France, despite a few sporadic suspected cases and reports of latent forms.

Some intermediate data in the series of samples following non-negative screening results could not be analysed because of inconsistent quality between *départements*.

However, data concerning first-line screening and incident outbreaks are considered reliable. Outbreak surveillance at the slaughterhouse only led to a very small number of cattle being detected with suspicious

lesions. It is not surprising, given the low infection levels and the long course of the disease, that no cases have been detected through this outbreak surveillance.

The sensitivity level of this type of surveillance appears to be rather low and enables only late detection. However, this limited number of suspected cases is consistent with the very low level of incidence found by serological screening, and there are currently no warning signals for potential resurgence of EBL.

Maintenance of this favourable context and the fact that the disease is considered a Category 2 health hazard (Ministerial Order of 29 July 2013) could prompt a revision of the surveillance scheme for EBL in the future. This revision would also allow clarification of certain aspects of the system, particularly concerning procedures and monitoring of health data, in order to provide solutions to the issues mentioned above.

References

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