

**BIOLOGICAL HEALTH RISKS
QUALITY OF LABORATORIES**

COMMITTEE OF EXPERTS

**PROFICIENCY TEST
IN VETERINARY DIAGNOSIS**

**DEFINITIVE GLOBAL REPORT
VETERINARY MEDICINE
BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)
PROFICIENCY TEST 2023-5**

Sciensano/PT VET BSE/2023-5/E

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A draft version of this report was submitted to the expert(s) on 01/08/2023.

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Date of publication: 11/08/2023

All the reports are available on our webpage:

- NL: <https://www.sciensano.be/nl/kwaliteit-van-laboratoria>
- FR: <https://www.sciensano.be/fr/qualite-des-laboratoires>
- EN: <https://www.sciensano.be/en/quality-laboratories>

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1 INTRODUCTION

Details relevant to the proficiency test are available in the procedure SOP 2.5/01 'Management of the proficiency tests organized by the scientific directorate infectious diseases in animals'. The PT was organized according to the ISO17043 'Conformity assessment - General requirements for proficiency testing' norm.

2 AIM

The aim of this proficiency test was to assess the capability of the participating laboratories to detect BSE prions in nervous tissue (obex).

3 MATERIALS AND METHODS

3.1 Prionology

3.1.1 THE PARTICIPANTS

Two laboratories participated in the proficiency test of Bovine Spongiform Encephalopathy prionology on nervous tissue samples. The names of the participating laboratories are:

- Sciensano, department of Viral Re-emerging Zoonotic and Bee Diseases
- Laboratorium ECCA

3.1.2 THE SAMPLES

The samples were prepared by the National Reference Laboratory (NRL), department of Viral Re-emerging Zoonotic and Bee Diseases, Sciensano.

Information about the origin of the samples:

- To obtain the samples for the proficiency test, homogenates of the obex of multiple TSE-positive and TSE-negative bovines were pooled. These homogenates were obtained from proficiency tests organized by the European reference laboratory. The homogenates and pools of homogenates are conserved in an ultra-low freezer (< -72°C).

3.1.3 HOMOGENEITY

Because of the limited availability of positive samples, the homogeneity of the samples was tested once with the accredited method by the NRL before the proficiency test. The samples were considered as homogeneous.

3.1.4 TARGET VALUES

The panel consisted of 3 different samples. However, the negative sample “Mix Neg” was repeated thrice. Therefore, the panel included 5 samples in total.

Sample content	Repetition	Expected result
Mix D	1	POS (medium)
Mix S	1	POS (weak)
Mix Neg	3	NEG

(POS = positive; NEG = negative)

3.1.5 STABILITY

The stability was determined by comparison of the pre-proficiency test results with the results obtained by the NRL during and after the proficiency test. The samples were considered as stable.

3.1.6 RANDOMISATION AND PANEL COMPOSITION

Since a specific number has been assigned to each laboratory, the randomisation has been performed as follows:

Sample ID: BSE	97505	97507
23-1	Mix D	Mix S
23-2	Mix Neg	Mix Neg
23-3	Mix Neg	Mix Neg
23-4	Mix S	Mix D
23-5	Mix Neg	Mix Neg

4 TIMELINE

Transfer of the samples from NRL to QL: not done (the randomisation was done in the NRL facilities)

Randomization of the samples by QL: 05/06/2023

Sending samples to participants: in the week of the 5th of June 2023

- Storage of the samples : frozen at -16 °C

Deadline for submitting the results: 23/06/2023

Individual report to the participants: 25/07/2023

5 RESULTS

5.1 Prionology

5.1.1 RESULTS PER SAMPLE

The panel consisted of 3 different samples. However, negative sample “Mix Neg” was repeated thrice. Therefore, the panel included 5 samples in total.

Sample content	Status	Number of repetitions (total results)	Observed result
Mix D	POS	1 (2)	2 POS
Mix S	POS	1 (2)	2 POS
Mix Neg	NEG	3 (6)	6 NEG

5.1.2 USED METHOD

Method	Purification kit	N	NR	NCR	%
Bio-Rad - TeSeE ELISA	TeSeE purification kit	1	10	10	100
IDEXX - Herdcheck BSE-Scrapie Ag test (enzyme immunoassay)	<i>Not applicable</i>	1	10	10	100
TOTAL		2	20	20	100

(N= number of laboratories; NR = number of results; NCR = number of correct results).

5.1.3 CONCLUSION

In 2023, two laboratories participated in the proficiency test “Bovine Spongiform Encephalopathy prionology (obex)” organized by Sciensano. According to the procedure currently in force, the performance of a participating laboratory is satisfactory if all the results (100%) provided by this laboratory are in agreement with the status of the reference samples assigned by the NRL of the Scientific Directorate Infectious Diseases in Animals of Sciensano. All laboratories succeeded in achieving the maximum score (100%) for this test.

6 ADDITIONAL INFORMATION

The **calendar** for Proficiency Testing in Veterinary diagnosis is available on our website:

- NL: <https://www.sciensano.be/fr/biblio/eke-kalender-2023>
- FR: <https://www.sciensano.be/en/biblio/calendrier-eeq-2023>
- EN: <https://www.sciensano.be/en/biblio/eqa-calendar-2023>

END

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