

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 20 janvier 2026 12:37

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Chronic wasting disease
*Address of laboratory:	Postboks 64, 1431 ÅS, Norway
*Tel:	+47-23 21.60.00
*E-mail address:	04benest@vetinst.no
Website:	www.vetinst.no
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr Gunn Peggy Strømstad Knudsen
*Name (including Title and Position) of WOAHO Reference Expert:	Dr Sylvie L. Benestad, Senior researcher
*Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
PrP ELISA	Yes	37551	3
Direct diagnostic tests			
PrP WB	Yes	220	1
PrP IHC	Yes	80	0

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAHO?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAHO Members?

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAHO Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

Sylvie L. Benestad - - NORWAY

7. Did your laboratory validate diagnostic methods according to WOAHP Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAHP Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAHP Members?

Yes

Name of WOAHP Member Country seeking assistance	Date	Which diagnostic test used	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
DENMARK	2025-10-30	ELISA	2	2

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAHP Member?

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAHP Members other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAHP Member Countries involved other than your country
CWD strain characterization	Several years	Bioassay in bank voles	ISS, Rome	ITALY
CWD strain characterization	Several years	Bioassay in transgenic mice	Colorado University, Fort Collins	UNITED STATES OF AMERICA
CWD strain characterization	Several years	Bioassay in transgenic mice	Alberta University, Calgary	CANADA
CWD strain characterization	Several years	Bioassay in transgenic mice	UCL London	UNITED KINGDOM
CWD strain characterization	Several years	Comparison between CWD in Europe and North America	Canadian Food Inspection Agency, Ottawa	CANADA
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	Canadian Food Inspection Agency, Ottawa	CANADA
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	INRAE/ENVT Toulouse	CANADA
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	Besta Institute Milano	ITALY
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	Colorado State University, Fort Collins	UNITED STATES OF AMERICA
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	INIA CISA Madrid	SPAIN
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	ISS, Roma	ITALY
Emerging CWD, Norwegian Research Council	2024-2029	Reindeer transmission study	University Minnesota	UNITED STATES OF AMERICA
Wildlife, Livestock, huMan and Infectious Disease- Horizon Europe program	2023-2028	Battling Europe's Most Dangerous Infectious Diseases	INRAE, Jouy-en-Josas and Toulouse	FRANCE

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAHP?

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

Sylvie L. Benestad - - NORWAY

If the answer is yes, please provide details of the data collected:

The Norwegian Veterinary Institute analyzed 11637 cervids in 2025 through the National surveillance program on CWD

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:

The samples and results are daily published on the Institute web site <http://apps.vetinst.no/skrantesykestatistikk/NO/#omrade>

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

4

-Vuong TT, Cazzaniga FA, Tran L, Våge J, Di Bari M, Pirisinu L, D'Agostino C, Nonno R, Moda F, Benestad SL. Prions in Muscles of Cervids with Chronic Wasting Disease, Norway. *Emerg Infect Dis.* 2025 Feb;31(2):246-255. doi: 10.3201/eid3102.240903. PMID: 39983705; PMCID: PMC11845164.

- Canoyra S, Marín-Moreno A, Espinosa JC, Fernández-Borges N, Vidal E, Orge L, Benestad SL, Andréoletti O, Torres JM. Classical BSE emergence from Nor98/atypical scrapie: Unraveling the shift vs. selection dichotomy in the prion field. *Proc Natl Acad Sci U S A.* 2025 Jul 22;122(29):e2501104122. doi: 10.1073/pnas.2501104122. Epub 2025 Jul 15. PMID: 40663612; PMCID: PMC12304961.

-Espinosa JC, Fernández-Borges N, Marín-Moreno A, Canoyra S, Aguilar-Calvo P, Pintado B, Pericuesta E, Benestad SL, Nonno R, Andréoletti O, Torres JM. Strain-Dependent Susceptibility to Prion Infection Encoded by Arg171 and Lys176 Sheep Prion Protein Polymorphic Variants. *J Infect Dis.* 2025 Jul 30;232(1):e89-e98. doi: 10.1093/infdis/jiaf170. PMID: 40230197; PMCID: PMC12308685.

- Mysterud A, Osnes MN, Dean RK, Widgren S, Tranulis MA, Viljugrein H. Modelling the effect of genotype (PRNP) linked to susceptibility, infection duration and prion shedding on chronic wasting disease dynamics of cervids. *Ecological Modelling* 2025.

b) International conferences:

11

-Våge J. Surveillance program and status for CWD. *Wildlife Disease Association.* 19-21.05.2025

-Canoyra Sanchez S, Espinosa JC, Marín-Moreno A, Fernandez-Borges N, Lorenzo P, Manzanares L, Bruno R, diBari M, Pirisinu L, Vidal E, Orge L, Benestad SL, Andreoletti O, Nonno R, Torres JM. Evolutionary mechanism of Nor98/atypical scrapie during intra and cross-species transmission in vivo and in vitro. *Prion* 2025, Rio de Janeiro, Brazil, 03-07.11.2025

- Smyth Z, Larsen P, Christenson P, Rowden G, Schwabenlander M, Vuong TT, Oh SH, Tran L, Benestad SL- Prion 2025, Rio de Janeiro, Brazil, 03-07.11.2025.

- Ernst S, Fawzia FA, Keller M, Mitchell G, Gavier-Widen D, Benestad S, Houston F, Groshup M, Monier S, Fast C- Prion 2025, Rio de Janeiro, Brazil, 03-07.11.2025

- Benestad S. A jump into the prion's word. *Precellys Anniversary Program.* Montigny-le- Bretonneux, France, 01-02.12.2025.

-Ytrehus B. Chronic Wasting Disease (CWD) in the Nordic forests- is that a problem? *Moose symposium Östersund, Sweden, 24-25.06.2025.*

-Osnes MN, Mysterud A, Dean RK, Tranulis MA, Widgren S, Viljugrein H. Modeling the effects of PRNP genotype on chronic wasting disease dynamics of cervids. *WILiMan-ID Annual Meeting #2, Vienna, Austria, 04-05.06.2025*

-Osnes MN, Mysterud A, Dean RK, Tranulis MA, Widgren S, Viljugrein H. Modeling the effects of PRNP genotype linked to susceptibility, disease duration and prion shedding on chronic wasting disease dynamics of cervids. *Wildlife network –Terrestrial Online Meeting Series, European Partnership Animal Health and Welfare, EUP AH&W, 01.10.2025*

- Viljugrein H. CWD in Norway and initial work on a CWD spread model. *Teams meeting, EUP AHW SOA6 subtask 5.2, EUP AHW SOA6, 07.11.2025*

Sylvie L. Benestad - - NORWAY

-Osnes MN, Mysterud A, Widgren S, Dean RK, Tranulis MA, Viljugrein H. Modelling the effect of genotype (PRNP) linked to susceptibility, duration and level of prion shedding on chronic wasting disease dynamics of cervids. *The Society for Veterinary Epidemiology and Preventive Medicine (SVEPM 2025)*, Friedrich-Loeffler-Institut, Berlin, Germany, 26-28.03.2025

-Osnes MN. Modelling the effect of genotype (PRNP) on chronic wasting disease transmission and population dynamics of reindeer. *Modelling in Animal Health conference (ModAH 2024)*, Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE), Nantes, France, 29.03.2025.

c) National conferences:

4

-Våge J. Chronic Wasting Disease (CWD), a challenge for reindeer husbandry? *Nordic Reindeer Husbandry Conference, Alta (Norway), 14 Feb 2025.*

- Våge J. Chronic Wasting Disease (CWD), deadly prion disease in cervids, *Professional seminar Ministry of Agriculture and Food, 26. March 2025.*

-Våge J. Surveillance program and status for CWD. *Wildlife Disease Association. 19-21 Mai 2025.*

- Benestad S. Mad cow disease (BSE) in cattle. *Webminar about BSE. 18 Nov 2025.*

d) Other (Provide website address or link to appropriate information):

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA Members?

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
NS-EN ISO/IEC 17025 (2017)	Accreditation documents 2025	Accreditation document NVI CWD Norway 2025.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PrP HerdChek ELISA (IDEXX)	Norwegian accreditation (NA)
PrP TeSeE Western Blot (Bio-Rad)	Norwegian accreditation (NA)

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

Work with TSE takes place in BSL3 laboratories in accordance with guidelines for work with infection risk group 3 agents, we have carried out risk assessments and implemented procedures to ensure biosafety for employees and the environment.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAHA?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAHA?

No

TOR10: NETWORK WITH WOAHA REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOA Reference Laboratories designated for the same pathogen or disease?

Yes

24. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen during the past 2 years?

No

None

26. Did your laboratory collaborate with other WOA Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOA Reference Laboratories
Collaborative framework concerning CWD reference laboratories	Advancing strategies to detect, control and characterize CWD	Canadian Food Inspection Agency, Ottawa, Canada
Project on CWD transmission in Reindeer, Emerging CWD project	Study about shedding of prions in excretas	Canadian Food Inspection Agency, Ottawa, Canada

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Ring trial on rapid tests (ELISA) for detection of PrP ^{Sc}	Participant	29	IDEXX HerdCheck	ITALY,
Ring trial on confirmatory test (WB) for detection of PrP ^{Sc}	Participant	23	Bio-Rad TeSeE WB	ITALY,

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOA?

No

29. Additional comments regarding your report:

No