

OIE Reference Laboratory Reports Activities

Activities in 2014

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Bluetongue
Address of laboratory:	Via Campo Boario 64100 Teramo ITALY
Tel.:	+39-0861 33 22 30
Fax:	+39-0861 33 22 51
E-mail address:	g.savini@izs.it
Website:	www.izs.it
Name (including Title) of Head of Laboratory (Responsible Official):	Giovanni Savini, DVM, PhD Scientific Director Istituto Zooprofilattico Sperimentale dell' Abruzzo e del Molise " G. Caporale", Teramo, Italy
Name (including Title and Position) of OIE Reference Expert:	Giovanni Savini, DVM, PhD Head of the Virology Department Istituto Zooprofilattico Sperimentale dell' Abruzzo e del Molise " G. Caporale", Teramo, Italy
Which of the following defines your laboratory? Check all that apply:	Governmental

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
c-ELISA	Yes	25.821	873
VNT	Yes	93.969	11.274
Direct diagnostic tests			
Genotype specific Real-time RT-PCR	Yes	3906	525
Serotype specific PCR real time	No	5.808	2.706
KC + VERO cell culture	Yes	1.218	104
UE + VERO cell culture	Yes	12	
VERO cell culture - Virus titration	No	56	
Virus typing	Yes	415	
Microscopic examination Culicoides imicola identification	No	3.661	23
Microscopic examination Culicoides spp.	No	586	202
PCR Culicoides obsoletus and Culicoides scoticus identification	No	531	

**ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.
To store and distribute to national laboratories biological reference products and**

any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
BTV1 positive sera/ field 2013	c-ELISA	provide	0	15 ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV1/ It field 2013	Real Time RT-PCR	provide	0	60 ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV1/ It field 2006	Proficiency test	provide	15 ml	1ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV2/It field 2001	Proficiency test	provide	15 ml	1 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV4/It field 2003	Proficiency test	provide	15 ml	1 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV8/It field 2008	Proficiency test	provide	15 ml	1 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

BTV9/It field 2000	Proficiency test	provide	15 ml	1 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
BTV16/It field 2002	Proficiency test	provide	15 ml	1 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Control positive serum for c-ELISA	c-ELISA	produced	14.750 ml			<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Control negative serum for c-ELISA	c-ELISA	produced	7600 ml			<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
c-ELISA antigen	c-ELISA	produced	300 ml			<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
VP7 monoclonal antibody	c-ELISA	produced	14 ml			<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
CROATIA	January-December	0	122
UKRAINE	November	0	4
TUNISIA	January	0	11
MAURITANIA	June	277	0
BULGARIA	November	0	133
MACEDONIA (FORMER YUG. REP. OF)	July	0	1
ALBANIA	September&December	234	0
BOSNIA AND HERZEGOVINA	July & December	0	14
GERMANY	July	10	0
MOROCCO	October	0	56
SAN MARINO	January-December	302	0

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
ALGERIA	To strengthen the diagnostic capability of the National Reference Laboratories	in loco
FRANCE	To assist the Corse authorities in controlling BT spread in Corsica and Sardinia	in loco
CHINA (PEOPLE'S REP. OF)	To assist the China Animal Health and Epidemiology Center in the diagnosis and surveillance of BT	in loco
ROMANIA	As member of the Community Veterinary Emergency Team for the BTV-4 spread in Europe	in loco
BULGARIA	As member of the Community Veterinary Emergency Team for the BTV4 spread in Europe	in loco
SLOVENIA	As member of the Community Veterinary Emergency Team for the BTV-4 spread in Europe	in loco
CROATIA	As member of the Community Veterinary Emergency Team for the BTV-4 spread in Europe	in loco
SERBIA	As member of the Community Veterinary Emergency Team for the BTV-4 spread in Europe	in loco
ALBANIA	As member of the Community Veterinary Emergency Team for the BTV-4 spread in Europe	in loco
BRAZIL	To assist the Instituto Biologico de Sao Paulo for the surveillance and diagnosis of BT	in loco

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)
EMIDA	3 years	Combating orbivirus infections of livestock: understanding of the molecular basis for protein function / virus phenotype, molecular epidemiology and improving diagnostic assays (OrbiNet)	Institute of Institute of Comparative Medicine, University of Glasgow, Scotland (UK); National Veterinary Institute, Technical University of Denmark, Lindholm, Denmark; The Pirbright Institute, Pirbright Great Britain
Emerging viral vector borne diseases (VMERGE)	3 years	Strengthening surveillance systems in the North Africa countries	CIRAD, Paris (F); CReSA, Bellaterra (E); The Pirbright Institute, Pirbright (UK); NERC, Swindon Wiltshire (UK); ANSES, Maisons Alfort (F); FLI, Greifswald-Insel Riems (D); Euro-AEGIS, Zoersel (B); DLO-CVI Wageningen (NL); FAO, Rome (I); Pathoquest, Paris (F); IAV, Rabat (MA); ISRA, Dakar (SN), FVM-AU, Alexandria (ET), IRVT, Tunis (TN), CNERV, Nouakchott (RIM).
AFAATE0914 - VectorNet: a European network for sharing data on the geographic distribution of arthropod vectors, transmitting human and animal disease agents	4 years	Creating a European network for sharing data on the geographic distribution of arthropod vectors, transmitting BT	Avia Gis ECDC EFSA
Origin and evolution of recent vector-borne virus incursions in the Mediterranean Basin	3 years	Updating the BT epidemiological situation in Northern African countries and develop a new diagnostic tool capable of identifying and distinguishing BTV serotypes in one step	Institut de la Recherche Vétérinaire Biopharma CroatianVeterinary Institute
Twinning project to strength the skill of the National Center for Zoosanitary Vigilance (CNVZ)	3 years	To strength the skill of the CNVZ personnel on risk analysis and animal surveillance on BT and other infectious diseases	National Center for Zoosanitary Vigilance
Identification of the Molecular determinants of BTV virulence	3 years	To study the pathogenicity and identify possible molecular determinants of some field and vaccine BTV strains using mouse model and reverse genetics technique	Faculty of Veterinary Medicine, Institute of Comparative Medicine, University of Glasgow
Executive programme of scientific and technological cooperation between Italy and Namibia	3 years	Presence and distribution of BTV serotypes and vectors in Namibian National Parks	Ministry of Agriculture and CVL of Windhoek

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

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

a) Articles published in peer-reviewed journals: 7

1. Lorusso A., Marcacci M., Ancora M., Mangone I., Leone A., Marini V., Cammà C., Savini G. 2014. Complete Genome Sequence of Bluetongue Virus Serotype 1 Circulating in Italy, Obtained through a Fast Next-Generation Sequencing Protocol. *Genome Announc.* 2014 Feb 13;2(1). pii: e00093-14. doi: 10.1128/genomeA.00093-14
2. Sarvašová A., Goffredo M., Sopoliga I., Savini G., Kočíšová A. 2014. Culicoides midges (Diptera: Ceratopogonidae) as vectors of orbiviruses in Slovakia. *Vet. Ital* 2014, 50 (3), 203-212. doi: 10.12834/VetIt.2405.11
3. Lorusso A, Sghaier S, Ancora M, Marcacci M, Di Gennaro A, Portanti O, Mangone I, Teodori L, Leone A, Cammà C, Petrini A, Hammami S, Savini G. Molecular epidemiology of bluetongue virus serotype 1 circulating in Italy and its connection with northern Africa. *Infect Genet Evol.* 2014 Dec;28:144-9. doi: 10.1016/j.meegid.2014.09.014. Epub 2014 Sep 17.
4. Caporale M, Di Gialleonardo L, Janowicz A, Wilkie G, Shaw A, Savini G, Van Rijn PA, Mertens P, Di Ventura M, Palmarini M. Virus and host factors affecting the clinical outcome of bluetongue virus infection. *J Virol.* 2014 Sep;88(18):10399-411. doi: 10.1128/JVI.01641-14. Epub 2014 Jul 2.
5. Bosnić S., Beck R., Listeš E., Lojkić I., Roić B., Sućec I., Acinger-Rogić Ž., Savini G. 2014. Bluetongue virus in Oryx antelope (*Oryx leucoryx*) during the quarantine period in Croatia. PMID: 24991012 [PubMed - in process] Free PMC Article PMID: 25239524 [PubMed - in process] Submitted
6. Vitale N., Radaelli M.C., Chiavacci L., Paoletti M., Teodori L., Savini G. 2014. Factors Affecting Seroconversion Rates in Cattle Vaccinated with Two Commercial Inactivated BTV-8 Vaccines Under Field Conditions. *Transbound Emerg Dis.* 2014 Jun 6. doi: 10.1111/tbed.12241. [Epub ahead of print]
7. Garros C, Balenghien T, Carpenter S, Delécolle JC, Meiswinkel R, Pédarrieu A, Rakotoarivony I, Gardès L, Golding N, Barber J, Miranda M, Borràs DB, Goffredo M, Monaco F, Pagès N, Sghaier S, Hammami S, Calvo JH, Lucientes J, Geysen D, De Deken G, Sarto I, Monteys V, Schwenkenbecher J, Kampen H, Hoffmann B, Lehmann K, Werner D, Baldet T, Lancelot R, Cêtre-Sossah C., 2014. Towards the PCR-based identification of Palaearctic *Culicoides* biting midges (Diptera: Ceratopogonidae): results from an international ring trial targeting four species of the subgenus *Avaritia*. *Parasit Vectors.* May 14;7:223. doi: 10.1186/1756-3305-7-223 PMID: 24884950

b) International conferences: 7

1. IV International Conference on Bluetongue and related Orbiviruses. Rome, November 2014
2. 3rd Global Conference of OIE Reference Centres "Challenges and Expectations for the future". Korea, November 2014
3. BT Annual Meeting. Rome, November 2014
4. 4th Bluetongue OIE Reference Laboratory Network (OIEBNet) Meeting .Teramo, February 2014
5. FORE-MED (Foresight Project for the Mediterranean) workshop Ministero della salute, DSVETOC. Rome, March 2014
6. LinkTADs WP4 2nd Workshop on Vaccine and Diagnostic. Shanghai, 17 October 2014
7. 82 OIE General Session. May, Paris, 2014

c) National conferences: 6

1. I risultati della ricerca corrente condotta dall'Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale". Anno 2013. Teramo. Giugno 2014
2. Workshop Nazionale di Virologia Veterinaria. Teramo. Giugno 2014
3. Malattie transfrontaliere trasmesse da vettori. Nuovi orizzonti per la Bluetongue. Rome. Aprile 2014; Turine, June 2014; Catanzaro, July 2014
4. Workshop on bluetongue. Cagliari, February 2014

5. Workshop on bluetongue. Montecastrilli (Terni), March 2014

6. Workshop "Next Generation Sequencing: Technology, Applications and Data Analysis". Teramo, June 2014

d) Other:

(Provide website address or link to appropriate information) 1

www.izs.it

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries

To recommend the prescribed and alternative tests or vaccines as OIE Standards

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 2

b) Seminars: 0

c) Hands-on training courses: 0

d) Internships (>1 month): 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
a	Bulgaria	1
a	Morocco	2

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System certified according to an International Standard?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
UNI EN 45001 norms, now to ISO/IEC 17025 obtained in 1995 by ACCREDIA (former SINAL - National System for the Accreditation of Test Laboratories)	Certificate_of_accreditation_ISO_17025_IZSAM.pdf

16. Is your laboratory accredited by an international accreditation body?

Yes

Test for which your laboratory is accredited	Accreditation body
VNT	ACCREDIA
c-ELISA	ACCREDIA
Real Time RT PCR	ACCREDIA
BTV isolation	ACCREDIA

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2014, Chapter 1.1.3a)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

Yes

National/ International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	IV International Conference on Bluetongue and related Orbiviruses	Italian Ministry of Health, OIE, European Commission, ANSES, UC Davis, USDA, Ministry of Agriculture of Spain	11/14	Rome	Around 300
National	I risultati della ricerca corrente condotta dall'Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale". Anno 2013	Italian Ministry of Health	06/14	Teramo	Experts
National	Workshop Nazionale di Virologia Veterinaria	Istituto superiore di sanità Università degli studi di Teramo	06/14	Teramo	Experts
National	Malattie transfrontaliere trasmesse da vettori. Nuovi orizzonti per la Bluetongue	Italian Ministry of Health	04/14 06/14 07/14	Rome, Turin, Catanzaro	Veterinary
National	4° th BT National Meeting	Italian Ministry of Health	11/14	Teramo	Experts

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
3rd Global Conference of OIE Reference Centres "Challenges and Expectations for the future"	10/14	Korea	Speaker	Validation of RT-PCR for bluetongue virus
Workshop on bluetongue	02/14	Cagliari	Speaker	"Vaccinazione BT"
4th Bluetongue OIE Reference Laboratory Network (OIEBTNet) Meeting	02/14	Teramo	Speaker	OIE comments on the revised version of the BT chapter of the Manual & OIE BT Reference Laboratory Network: Status of Art
Workshop on bluetongue	03/14	Montecastrilli (Terni)	Speaker	"Bluetongue in Italia"
FORE-MED (Foresight Project for the Mediterranean) workshop Ministero della salute, DSVETOC	03/14	Rome	Speaker	Possible future scenario of infectious disease in the Mediterranean Basin
Workshop "Malattie transfrontaliere trasmesse da vettori. Nuovi orizzonti per la Bluetongue"organizzato dal Ministero della Salute e IZSAM	04/14 06/14 07/14	Rome, Turin, Catanzaro	Speaker	"La Bluetongue: evoluzione del virus nel panorama nazionale ed internazionale", "Aspetti clinici e diagnostici della Bluetongue" & "Vaccinazione nei confronti della bluetongue: attualità e prospettive"
Workshop"Next Generation Sequencing: Technology, Applications and Data Analysis"	06/14	Teramo	Speaker	Molecular epidemiology by Next Generation Sequencing with particular emphasis on Bluetongue virus"
IV International Conference on Bluetongue and related Orbiviruses	11/14	Rome	Poster	"Molecular epidemiology of bluetongue virus serotype 1 in italy"

<p>IV International Conference on Bluetongue and related Orbiviruses</p>	<p>11/14</p>	<p>Rome</p>	<p>Poster</p>	<p>“Events of BTV Infection in Experimentally Infected Sheep”, “The NS4 Protein of Bluetongue Virus is an IFN Antagonist”, “Determinans of Pathogenicity of Highly Virulent Strain of BTV-8 from Northern Europe”, “Population Diversity of Bluetongue Virus Influences Virulence”, “Whole genome analysis of a BTV-4 reassortant strain isolated during the BT outbreak in Sardinia in 2012”, “Whole genome analysis of a BTV-4 strain isolated in Tunisia in 2013.”Whole genome analysis of an italian btv-2 field strain after passages on insect and mammalian cells”, “2014 Culicoides imicola Kieffer in Italy”</p>
<p>IV International Conference on Bluetongue and related Orbiviruses</p>	<p>11/14</p>	<p>Rome</p>	<p>Poster</p>	<p>“The Italian vaccination campaign against Bluetongue serotype 2 and 9 using modified live vaccines: more lights than shadows”, “Bluetongue virus serotype 26 in cattle and dromedaries in Mauritania: new threat for European livestock? ”, “Characterization of the habitat of culicoides species belonging to the obsoletus complex: a landscape analysis and remote sensed approach”, “The 2012-2013 Bluetongue epidemic in Sardinia: multiple Culicoides species incriminated as possible vectors. “Relative abundance, geographic range, and Bluetongue virus vector role of the species of ‘Culicoides obsoletus group’ in Italy”“Bluetongue in Italy: from 2000 to 2014 chronicle of delusions and successes”, “Virus and host factors affecting the clinical outcome of bluetongue virus infection.</p>

Visit to the Instituto Biologico di San Paulo (Brazil)	03/14	San Paolo	Speaker	Bluetongue: an old disease in a new scenario", "Diagnosis and control of bluetongue", "Discussion about BTV immunodiagnostics and Molecular Biology protocols (Virus neutralization, AGID, ELISA, real time RT-PCR and determine the serotype)", "Culicoides and BTV", "Discussion on doubts of BTV sequencing: difficulties of LVB on standardization - selection of primers"
LinkTADs WP4 2nd Workshop on Vaccine and Diagnostic	10/14	Shangai	Speaker	Activities of the IZSAM in the context of vector-borne diseases

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Detection of BTV and serotyping in blood sample (Real Time RT-PCR)	Participant	60	1/1
Detection of BTV antibody in serum sample (c-ELISA)	Participant	60	1/1

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE 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 OIE Reference Laboratories
OIE Bluetongue reference laboratories network (OIE-BTNet)	Sharing reagents, updating, revising and validating the protocols of old procedures and adding new diagnostic procedures	All the OIE BT reference laboratories

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Detection of BTV in blood samples (Real Time RT-PCR)	16	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Detection of BTV antibodies in serum samples (c-ELISA)	32	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
ad hoc Group	Sardinia	Emergency task force
ad hoc Group	Abruzzo	Emergency task force
ad hoc Group	Marche	Emergency task force
ad hoc Group	Rome	Emergency task force
review of OIE Manual	Updating and revising the protocols of old procedures and adding new diagnostic procedures	Revision of the OIE Manual chapter on Bluetongue and creation of a new chapter on EHD
Field assistance	Umbria	BT outbreaks

25. Additional comments regarding your report: