

WOAH Collaborative Centre Reports Activities 2022

Activities in 2022

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Centre Information

Title of WOA Collaborating Centre	Animal welfare
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Name Director of Institute (Responsible Official):	Dr.Nicola D'Alterio
Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):	Dr.Giacomo Migliorati (Dr.Daniela Morelli)
Name of the writer:	Prof. Lotta Berg

TOR1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOA

Animal Welfare	
Title of activity	Scope
	To establish a network of animal welfare experts in the SADC area, directly connected to local governments and research

<p>Enhancing Research For Africa Network (ERFAN), AW sub group for the SADC region</p>	<p>institutions, in order to develop common research activities and draft a shared strategy, aiming at ensuring a more effective implementation of the WOAH standards on animal welfare in these countries</p>
<p>Animal Welfare</p>	
<p>Title of activity</p>	<p>Scope</p>
<p>Organisation and implementation of training activities on animal welfare on the farm, animal welfare at the time of killing of animals (at slaughterhouses and for disease control purposes) and animal welfare during transport under the "Better Training for Safer Food" initiative</p>	<p>WOAH-CC-IZS Teramo has been entrusted in December 2017, in partnership with Università degli Studi di Milano, for the organisation and implementation of training activities on animal welfare on the farm, animal welfare at the time of killing of animals (at slaughterhouses and for disease control purposes) and animal welfare during transport under the "Better training for Safer Food" Initiative. After a first two-year phase (2018-2019), a second two-year cycle has been approved by the EU Commission with the aim to develop best practices and compliance with the EU and international standards in the animal welfare field. Bringing together participants belonging to National Competent Authorities of Member States, Candidate and Non-EU countries, this project contributes to increase the compatibility of procedures and practices across the EU and to allow exchange between them. As in the first phase, also during the second phase, the attendance should be approximately 30 people per training session, with an estimated global number of 360 participants for the entire training programme that foresees 12 training course editions. Due to Covid19 Pandemic in 2020 no courses have been delivered so a 12-months extension has been approved. In the meanwhile in 2022 9 face to face events have been converted in virtual classrooms. For that scope, pedagogical videos and relevant training materials have been designed. Furthermore, experts from SLU/SCAW have been involved in developing other BTSF courses, both for on-site training events and for online training.</p>
<p>Animal Welfare</p>	
<p>Title of activity</p>	<p>Scope</p>
<p>EURCAW Ruminants & Equines, and the Care4Dairy project</p>	<p>The two partners, SLU/SCAW and IZS Teramo, have together with other highly qualified centres of research and expertise applied for, and been granted, the position as an EU Reference Centre for Animal Welfare with a focus on ruminants and equines. We have hereby been given the opportunity to systematically work for improving the knowledge and support to competent authorities on the animal welfare demands of these species, based on the well-functioning cooperation that we have developed as a WOAH CC. This way, we will be able to convey knowledge and up-to-date research findings to the competent authorities in charge of animal welfare inspections, and also to the dairy, beef and horse industry, as well as for other ruminants and equine species. Furthermore, we have received an EU grant for a project called Care4Dairy, with a</p>

	<p>focus on improving farmer knowledge of animal welfare requirements and needs for dairy calves, heifers and cows, for example by developing digital factsheets on relevant topics. Also in this case, the consortium is based on the collaboration between SLU/SCAW and IZSTeramo, and other European centres of excellence in this field.</p>
Animal Welfare	
Title of activity	Scope
<p>Development of a self-assessment and monitoring platform on the WOH standards: SAM TOOL 2.0 project</p>	<p>The general objective of this Project is to develop a webbased self-assessment and monitoring methodology to assist countries in making progress on the agreed vision of full compliance with the WOH standards on Dog Population Management in Europe. In 2022 has been set the expert's a working group and revised the questionnaire according to the new WOH Terrestrial Animal Health Code Chapter 7.7</p>

TOR3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable area

4. Did your Collaborating Centre maintain a network with other WOH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same speciality, to coordinate scientific and technical studies?

No

TOR4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
<p>Reduction of the Risk of Disasters in Animal Health (CENSA)</p>	<p>Cuba</p>	<p>Americas</p>	<p>Promote capacity building in the framework of the WOH network on veterinary emergencies</p>

Biological Threat Reduction (IIAD)	USA	Americas	Promote capacity building in the framework of the WOAAH network on veterinary emergencies
All the WOAAH CC belonging to the WOAAH Platform for the training of Veterinary Services	Paris	Africa Americas Asia and Pasific Europe	Promote innovative methodologies and tools for the he training of Veterinary Services globally

TOR6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAAH?

Yes

NAME OF EXPERT	KIND OF CONSULTANCY	SUBJECT
Luigi Iannetti	Lead Expert	WOAH Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZS Teramo) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV)
Michele Podaliri Vulpiani, Francesco Cerasoli, Silvia D'Albenzio, Daniela Ciavarelli, Francesca Pompei, Ombretta Pediconi, Chiara Albanello, Emanuela Rossi	Experts	WOAH Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZS Teramo) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV)
Luigi Iannetti, Michele Podaliri Vulpiani	Experts	WOAH Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZS Teramo) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV): preliminary assessment visit in Tunisia (9-13 May 2022)
Luigi Iannetti, Michele Podaliri Vulpiani	Experts	WOAH Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZS Teramo) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV): Coordination of the working group for the revision of Tunisian legislation on animal welfare – one in presence meeting (Sidi Thabet 10 May 2022) and two online meeting (7 October 2022 and 1 December 2022) with the EU-funded twinning "Projet de jumelage sur le Renforcement du dispositif national d'encadrement vétérinaire de la santé animale"

Silvia D'Albenzio	Expert	WOAH Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZS Teramo) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV): Coordination of the working group for the establishment of a permanent capacity building system in animal welfare in Tunisia
Luigi Iannetti, Michele Podaliri Vulpiani	Experts	ERFAN Sub-group for Animal Welfare for the SADC region. Scientific coordinators at the meeting in Pretoria (South Africa) on 7-9 June
Luigi Iannetti, Michele Podaliri Vulpiani	Experts	Assistance to the Faculty of Veterinary Science of the University of Pretoria (South Africa) for the preparation of the application as new WOAHC for Animal Welfare
Birgitta Staaf Larsson, Daniela Morelli, Silvia D'Albenzio, Luigi Iannetti	Experts	OIE Collaborating Centre Network coordination meeting 23 March 2022
Birgitta Staaf Larsson, Daniela Morelli, Silvia D'Albenzio	Experts	18th Meeting of the Steering Group of the OIE Platform on animal welfare for Europe (SG18) 20 April 2022
Birgitta Staaf Larsson, Elina Åsbjær	Experts	OIE Platform Working Equids West Eurasia baseline survey - next steps 11 May 2022
Francesco Cerasoli	Presenter as member of the OIE CC for AW in Europe (IZS Teramo and SLU/SCAW)	OIE 3rd Regional Webinar on: OIE international standards and tools to facilitate international movement of (competition) horses, procedures supporting the publication of self-declarations of animal health status and the official recognition of African horse sickness (AHS) free status. 10-11 May 2022.
Daniela Morelli, Birgitta Staaf Larsson	Experts	Preparation of the Technical Item_ Long distance transport of live animals –meetings 26 April, 5, 6, 19 and 31 May, 8 and 10 June 2022
Daniela Morelli, Birgitta Staaf Larsson, Silvia D'Albenzio, Luigi Iannetti	Experts	A virtual meeting aimed at laying the foundations of the WOAHC Network of Animal Welfare Collaborating Centres, according to the Guidance for the Management of WOAHC Collaborating Centre Networks 14 June 2022
Birgitta Staaf Larsson	Expert	AWCCs Collaboration (Transport - Five Domains) Zoom Meeting 15 June 2022

Birgitta Staaf Larsson Daniela Morelli, Silvia D'Albenzio, Luigi Iannetti, Michele Podaliri Vulpiani, Birgitta Staaf Larsson	Experts	Preparation of questionnaire Technical Item I Long distance transport - meeting 16 June 2022
Daniela Morelli	Expert	Preparation of the Technical Item_ Long distance transport of live animals – meetings 22 and 28 July 2022
Daniela Morelli, Birgitta Staaf Larsson, Luigi Iannetti	Experts	Questionnaire Technical Item I Long distance transport meetings 24 August 2022 (Tomasz Grudnik)
Daniela Morelli	Consultancy as coordinator of the WOAHC for AW in Europe (IZS Teramo and SLU/SCAW)	Presentation of the Technical Item I at the 30th Conference of the WOAHC Regional Commission for Europe (3-7 October 2022 - Catania, Italy) - Long distance transport of live animals: WOAHC standards and best practices including societal perception and communication aspects . Drafting of recommendations.
Luigi Iannetti	Poster presenter as member of the WOAHC for AW in Europe (IZS Teramo and SLU/SCAW)	30th Conference of the WOAHC Regional Commission for Europe (3-7 October 2022 - Catania, Italy). Poster presentation on the WOAHC twinning on AW with Tunisia.
Birgitta Staaf Larsson, Daniela Morelli	Participants.	WOAHC Animal Welfare Global Forum "Animal Welfare Economics" 12 October 2022
Luigi Possenti, Silvia D'Albenzio, Daniela Morelli	Experts	SAM TOOL 2.0 Working Group kick-off meeting
Lotta Berg, Luigi Iannetti, Silvia D'Albenzio	Consultancy as coordinator of the WOAHC for AW in Europe (IZS Teramo and SLU/SCAW)	WOAHC Regional training seminar for National Focal Points on Animal Welfare for Europe, 16-17 November 2022
Silvia D'Albenzio, Luigi Iannetti, Birgitta Staaf Larsson, Lotta Berg, Harry Blokhuis	Consultancy as coordinator of the WOAHC for AW in Europe (IZS Teramo and SLU/SCAW)	Steering Group Meeting of the WOAHC for Animal Welfare in Europe 17 November 2022.
Lotta Berg, Daniela Morelli, Luigi Iannetti, Michele Podaliri Vulpiani	Consultancy as coordinator of the WOAHC for AW in Europe (IZS Teramo and SLU/SCAW)	Regional Strategic Action (RSA) on animal welfare for Europe kick-off meeting. 22 November 2022

Daniela Morelli, Silvia D'Albenzio, Birgitta Staaf Larsson	Participants	Webinar to explain the new system for accessing the templates for WOAHA Reference Centres annual report of activities 2 December 2022
Daniela Morelli	Consultancy as coordinator of the WOAHA CC for AW in Europe (IZS Teramo and SLU/ SCAW)	The 19th Steering Group meeting of the WOAHA Platform on animal welfare for Europe. 7-8 December 2022
Luigi Iannetti	Consultancy as member of the WOAHA CC for AW in Europe (IZS Teramo and SLU/ SCAW)	WOAHA Regional training seminar for National Focal Points on Animal Welfare for Europe. 15 December 2022

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

a) In the framework of the WOAHA twinning of animal welfare in Tunisia and North Africa, the IZS –Teramo team composed by Luigi Iannetti and Michele Podaliri Vulpiani, carried out a preliminary in-field visit on 9-13 May 2022. Silvia D'Albenzio also participated to the visit remotely on the 10th of May. The aim of the visit was to define the state of the art of the application of WOAHA standards on animal welfare in Tunisia, and involved personnel from the ENMV (Ecole Nationale de Médecine Vétérinaire), the DGSV (General Direction of Veterinary Services), the CNVZ (Centre National de Veille Zoosanitaire) and the WOAHA Sub-Regional Delegation in Tunis.

b) The IZS – Teramo assisted the WOAHA Members from the Balkans in increasing preparedness capacity and contingency planning in the framework of the activities promoted by the WOAHA Platform for Animal Welfare in Europe.

c) The IZS – Teramo started the development of the SAM Tool 2.0 to support the compliance of the WOAHA Members in the Europe Region to the revised Chapter 7.7 of the WOAHA TAHC and to the Chapter 8.14.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAHA, to personnel from WOAHA Members?

Yes

a) Technical visit : 2

b) Seminars : 1

c) Hands-on training courses: 9

d) Internships (>1 month) : 1

TYPE OF TECHNICAL TRAINING PROVIDED (A, B, C OR D)	CONTENT	COUNTRY OF ORIGIN OF THE EXPERT(S) PROVIDED WITH TRAINING	NO. PARTICIPANTS FROM THE CORRESPONDING COUNTRY
a	Training on Animal welfare during transport in the framework of the WOAHA Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZSAM) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV)	Tunisia	9

a	Training on Animal welfare at slaughter in the framework of the WOAHA Twinning project on animal welfare between Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise-Italy (IZSAM) and the Ecole Nationale de Médecine Vétérinaire, Sidi Thabet, Tunisia (ENMV)	Tunisia	7
b	Regional Animal Welfare Centre Workshop	Western Balkan Region	40
a	Provided training on vesicular stomatitis virus complement fixation diagnostic test methods	Ivory Coast / Côte d'Ivoire	1
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare in pig production- Session III" 8-10 March 2023	Albania Austria Bulgaria Cyprus Denmark Finland Germany Iceland Ireland Luxembourg Norway Poland Portugal Slovakia Sweden	26
c	Virtual Classroom Training for Safer Food (BTSF) on "Animal Welfare during transport (adv level) - Session I" 29-31 march 2022	Bulgaria Germany Hungary Ireland Israel Italy Latvia Lithuania Luxembourg Mexico Republic of North Macedonia Portugal Slovenia Spain Sweden	23
c	Virtual Classroom Training for Safer Food (BTSF) on "Animal Welfare during transport (Basic level)" 17-19 May 2022	Austria Denmark Finland Greece Hungary Iceland Italy Latvia Norway Poland Romania Slovakia Spain Sweden	34
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare in poultry production- Session III" 7-9 June 2022	Argentina Cyprus Germany Italy Lithuania Malaysia Poland Portugal Romania Spain The Netherlands USA	18
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare at slaughter and in case of killing for depopulation purposes (basic level)" 21-23 June 2022	Austria Czech Republic Denmark Germany Greece Iceland Ireland Norway Poland Portugal Republic of North Macedonia Slovenia Spain The Netherlands	27
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare at slaughter of cattle, pigs, sheep and goats (advanced level)" 4-6 October, 2022	Argentina, Armenia Cyprus, Germany Greece Northern Ireland Norway, Portugal Romania, Slovenia Spain Sweden	19

c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare during transport (advanced level) - Session II" 25-27 October, 2022	Austria Denmark Germany Hungary Ireland Italy Norway Serbia Spain The Netherlands	16
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare at poultry slaughter (advanced level) 15-17 November, 2022	Belgium Denmark Hungary Ireland Latvia Norway Portugal Serbia Spain Thailand The Netherlands	18
c	Virtual Classroom Better Training for Safer Food (BTSF) on "Animal Welfare during transport (2nd session)" 29 Nov-1 Dec 2022	Belgium, Bulgaria Denmark, Estonia Finland, France Germany, Greece Hungary, Ireland Lithuania, Norway Poland, Portugal Serbia, Spain Sweden The Netherlands	37

TOR8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOA?H?

Yes

NATIONAL/INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS
International	WOAH/IZS "SAM Tool 2.0 flash webinar"	WOAH Sub-regional Representation - Brussels	2022-12-02	Virtual	20
International	WOAH Network of Animal Welfare Collaborating Centres	Collaborating Centres in the Asia and the Pacific region	2022-06-14	Virtual	26

TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOA?H that may be useful to Members of WOA?H

a) Articles published in peer-reviewed journals:

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Keeling LJ, Marier EA, Olmos Antillón G, Blokhuis HJ, Staaf Larsson B and Stuardo L (2022) A global study to identify a potential basis for policy options when integrating animal welfare into the UN Sustainable Development Goals. *Front. Anim. Sci.* 3:974687. doi: 10.3389/fanim.2022.974687

Lambraki IA, Cousins M, Graells T, Léger A, Abdelrahman S, Desbois AP, Gallagher R, Staaf Larsson B, Mattson B, Henriksson P, Troell M, Søgaard Jørgensen P, Wernli D, Carson CA, Parmley EJ and Majowicz SE (2022) Governing Antimicrobial Resistance (AMR) in a Changing Climate: A Participatory Scenario Planning Approach Applied to Sweden in 2050. *Front. Public Health* 10:831097. doi: 10.3389/fpubh.2022.831097

Di Marcantonio L, Marotta F, Podaliri Vulpiani M., Sonntag Q, Iannetti L., Janowicz A, Di Serafino G., Di Giannatale E., Garofolo G. (2022), Investigating the cecal microbiota in broiler poultry farms and its potential relationships with animal welfare, *Research in Veterinary*

Science, Volume 144, 2022, Pages 115-125, <https://doi.org/10.1016/j.rvsc.2022.01.020>.

Cerasoli, F.; Podaliri Vulpiani, M.; Saluti, G.; Conte, A.; Ricci, M.; Savini, G.; D'Alterio, N. Assessment of Welfare in Groups of Horses with Different Management, Environments and Activities by Measuring Cortisol in Horsehair, Using Liquid Chromatography Coupled to Hybrid Orbitrap High-Resolution Mass Spectrometry. *Animals* 2022, 12, 1739. <https://doi.org/10.3390/ani12141739>

Saluti, G., Ricci, M., Castellani, F. Colagrande M. Di Bari G. Podaliri Vulpiani M. Cerasoli F. Savini · G., · G. Scortichini, N. D'Alterio Determination of hair cortisol in horses: comparison of immunoassay vs LC- HRMS/MS.. *Anal Bioanal Chem* 414, 8093–8105 (2022) <https://doi.org/10.1007/s00216-022-04343-6>

Lanzoni, L.; Chagunda, M.G.G.; Fusaro, I.; Chincarini, M.; Giammarco, M.; Atzori, A.S.; Podaliri, M.; Vignola, G. Assessment of Seasonal Variation in Methane Emissions of Mediterranean Buffaloes Using a Laser Methane Detector. *Animals* 2022, 12, 3487. <https://doi.org/10.3390/ani12243487>

L. Lanzoni, M. Chincarini, M. Giammarco, I. Fusaro, M. Iannotta, M. Podaliri, A. Contri, A. Gloria, G. Vignola, Changes in the behaviour before normal calving to predict its onset in Mediterranean buffaloes heifers, *Applied Animal Behaviour Science*, Volume 254, 2022, 105721, ISSN 0168-1591, <https://doi.org/10.1016/j.applanim.2022.105721>.

F. Cerasoli, A Di Luca, N. D'Alterio, S. D'Albenzio, L. Iannetti, M. Podaliri Vulpiani, Excursus sulla legislazione vigente in materia di gestione igienico-sanitaria e tutela del benessere degli equini non destinati alla produzione di alimenti (non DPA) [Excursus on current legislation on sanitary hygiene and animal welfare of equines not intended for food production] (2022). *Large Animal Review (LAR)*. Vol 28 No 4 (2022)

Hernandez, A., Galina, C.S., Geoffry, M., Jung, J., Westin, R., Berg, C., 2022. Cattle welfare aspects of production systems in the tropics. *Animal Production Science*, doi:10.1071/AN21230

b) International conferences:

8

Morelli D. (2022). Technical item I (with questionnaire): Long distance transport of live animals: WOA's standards and best practices including societal perception and communication aspects. Oral communication at the 30th Conference of WOA's Regional Commission for Europe. 3-7 October 2022, Catania (Italy).

Iannetti L., Souilem O., Podaliri Vulpiani M., Dalla Villa P., D'Albenzio S., Ciavarelli D., Pompei F. & Morelli D. (2022). Implementing WOA's animal welfare standards in Northern Africa through the twinning instrument. Poster communication at the 30th Conference of WOA's Regional Commission for Europe. 3-7 October 2022, Catania (Italy).

Cerasoli F. (2022) New Challenges on horse welfare. OIE 3rd Regional Webinar on: OIE international standards and tools to facilitate international movement of (competition) horses, procedures supporting the publication of self-declarations of animal health status and the official recognition of African horse sickness (AHS) free status. 10-11 May 2022.

Iannetti L. (2022). Implementation of WOA's standards on long distance transport: current situation, gaps, solutions. Results of the survey presented at the 30th Conference of WOA's Regional Commission for Europe. WOA's Regional training seminar for National Focal Points on Animal Welfare for Europe, 16-17 November 2022.

D'Albenzio S. (2022). Self-assessment and monitoring (SAM) Tool 2.0. WOA's Regional training seminar for National Focal Points on Animal Welfare for Europe, 16-17 November 2022.

Berg L. (2022). Collaborating centre presentations SLU New partner in consortium and 5 years plan. WOA's Regional training seminar for National Focal Points on Animal Welfare for Europe, 16-17 November 2022.

Iannetti L. (2022). Outcomes of the Technical Item 1 of the 30th Conference of Regional Commission for Europe – "Long distance transport of live animals: WOA's standards and best practices including societal perception and communication aspects". 2nd meeting of WOA's regional network of National Contact Points on long-distance transportation in Europe, 15 December 2022.

Lerner, H., Berg, C., 2022. Overview of ethics, One Health and sustainability goals. Abstract 323, 28th Annual Conference, International Sustainable Development Research Society (ISDRS), Stockholm, Sweden, June 15-17, p. 679.

c) National conferences:

1

b) National conferences:

D'Albenzio S. (2022). The European Reference Centre for the Welfare of Ruminants and Equines. Annual Conference of the Italian National Reference Centre for Animal Welfare, Palermo (I), 20-21 June 2022.

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

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

- *Development and dissemination of fact-sheets concerning the welfare of ruminants (individual calf housing and calf feeding) and, more generally, the environmental enrichment*
- *Development of a permanent IT platform for the assessment of training needs in the animal welfare domain as concerns ruminants and equine in EU Member States*
- *Design and implementation of research projects to produce new knowledge in the animal welfare domain adopting new technologies such as Artificial Intelligence*

12. Additional comments regarding your report: