



**REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON ANTIMICROBIAL RESISTANCE<sup>1</sup>**  
**Paris, 29-31 August 2017**

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## **1. Opening**

The OIE *ad hoc* Group on Antimicrobial Resistance (hereafter referred to as ‘the Group’) met from 29 to 31 August 2017 at the OIE Headquarters in Paris, France.

Dr Elisabeth Erlacher-Vindel welcomed the participants and thanked them for their continued dedication to the Group, which has contributed greatly to the success of the OIE’s work on antimicrobial resistance (AMR). She informed the Group of the main OIE’s ongoing activities, including the enforcement of the AMR team by two more staff members in the Science and New Technologies Department to work on AMR to start in the autumn of 2017.

Dr Matthew Stone, Deputy Director General, thanked the participants for their continued support and participation in the Group, highlighting the value of the round table for intelligence gathering and for collaboration. He addressed the large amount of work being done on antimicrobial resistance across organisations and sectors, with a high political impact. Dr Stone noted the resulting coordination challenge to maximise the effect of work on AMR, and highlighted the work of the FAO<sup>2</sup> / OIE / WHO<sup>3</sup> Tripartite towards harmonisation. He informed that within the United Nation Interagency Coordination Group on Antimicrobial Resistance (IACG), a mapping exercise of all the activities of the Tripartite, other United Nation agencies, as well as public, private and academic sectors working on AMR is underway, which will support development of the IACG work-plan to address gaps. The next IACG meeting will be in October 2017 at the OIE Headquarters. A stakeholder engagement session with livestock sectors of national agencies is planned at this IACG meeting to highlight the work currently undertaken in the livestock sector on AMR. He also mentioned the OIE’s upcoming discussion to add a specific AMR indicator to the OIE Performance of Veterinary Services (PVS) framework, for which some members of the Group will provide expertise.

Dr Stone discussed the significance of the Group’s planned work on updating Chapter 6.7 and 6.8 of the *Terrestrial Animal Health Code (Terrestrial Code)* and the *List of Antimicrobial Agents of Veterinary Importance*, as these facilitate harmonisation between Member Countries. He stressed the importance of the Group’s contribution to the Global Database on the Use of Antimicrobial Agents in Animals, and the continued need to support Member Countries in providing accurate and comparable data. Dr Stone indicated the OIE’s desire for increased transparency, and asked the Group to develop a forward looking strategy for reporting the results of this data collection.

Dr Stone mentioned the development of a Tripartite communication team on AMR. The resulting communication materials will be used for Antibiotic Awareness Week in November 2017, and will primarily address Low and Middle Income Member Countries.

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<sup>1</sup> Note: This ad hoc Group report reflects the views of its members and may not necessarily reflect the views of the OIE. This report should be read in conjunction with the September 2017 report of the Scientific Commission for Animal Diseases because this report provides its considerations and comments. It is available at: <http://www.oie.int/en/international-standard-setting/specialists-commissions-groups/scientific-commission-reports/meetings-reports/>

<sup>2</sup> FAO: Food and Agriculture Organization of the United Nations

<sup>3</sup> WHO: World Health Organization

## **2. Adoption of the agenda and appointment of the chairperson and rapporteur**

The adopted Agenda and List of Participants are presented in Appendices I and II of this report, respectively.

The Group elected Dr Herbert Schneider as the chair, and Drs Chris Teale and Carolee Carson as rapporteurs.

## **3. Roundtable from the participants on any new issues of interest for the Group**

The members of the Group shared updates from their regions and respective organisations regarding activities on antimicrobial use and antimicrobial resistance, including a presentation on the recent report of the Joint Interagency Antimicrobial Consumption and Resistance Analysis European Union Expert Working Group (JIACRA) and on the United States Food and Drug Administration's proposed method for adjusting data on antimicrobials sold or distributed for use in food-producing animals, using a biomass denominator.

## **4. Overview of the results second phase of the collection of data on the use of antimicrobial agent in animals in animals**

Dr Delfy Góchez presented an overview of the results of the second phase of data collected from OIE Member Countries on antimicrobial agents intended for use in animals. She reported that 146 Member Countries responded for this second phase, which increased from 130 in the first phase. The sources of data reported were similar to the first phase. There was also an increase in Member Countries providing quantitative data (107 in the second phase from 89 in the first), as well as 13 Member Countries choose a higher Reporting Option. Member Countries providing only baseline information noted barriers to providing quantitative data, such as a lack of a regulatory framework, lack of cooperation between national sectors and private sectors, lack of tools and human resources, or insufficient regulatory enforcement.

Overall, the global data collection system is improving and several indicators of progress have been identified. The exercise of data submission has also informed improvements to data collection. At the end of 2017, the 5<sup>th</sup> cycle of Focal Point trainings for Veterinary Products will be launched, starting in Africa. This will be a useful venue to raise challenges and discuss the barriers identified in this second phase of data collection.

The Group noted that currently, the main reference for the data collection protocol lies within the OIE *Terrestrial and Aquatic Animal Health Codes*, but there are important details for data collection included in the global database guidance document, questionnaire, and related Annex. The Group recommended that this information could be additionally published on the website to provide enhanced visibility of this material (e.g., on the OIE website).

## **5. Presentation and agreement of the proposed denominator**

Dr Margot Raicek presented a proposed methodology for calculation of the animal biomass for use as a provisional denominator in analysis of quantitative data reported on antimicrobial agents. The animal biomass was calculated for countries providing quantitative data for 2014 and 2015, as these were the years with the highest response rates from both phases of data collection.

A denominator was calculated for cattle, swine, poultry, small ruminants, equidae, rabbits, cervidae, camelidae and farmed fish, using primarily WAHIS (OIE World Animal Health Information System) census data, with FAOSTAT (FAO statistics) as a secondary source where data was unavailable in WAHIS. The methodology took into account the live weights of animals at time of slaughter calculated from FAOSTAT slaughter data. The methodology was developed using this globally available data using Eurostat data as a reference for Europe, where more detailed census data by production class is currently available.

The methodology for each species included some data derived models of animal sizes and expected cycles of reproduction in short-lived species. There is a need to obtain country sub-regional animal weights and reproduction cycles through Member Country information and future development of WAHIS. It was also discussed that WAHIS will collect census data with more detailed information by production class in the future, based on suggestions provided by the Group.

Taking note of the Group's decision to use live weight at time of slaughter, the proposed methodology was compared with other published biomass denominator methodologies. A primary difference noted among methodologies was use of live weights at time of slaughter versus the use of estimated weights at times of treatment. The results of this analysis confirmed that the use of live weights at time of slaughter is appropriate. The Group recommended that the OIE make note of this comparison in its report of the second phase of data collection.

The Group discussed including cats and dogs in the analysis and decided to not include these animal populations at this time given sporadic data available on these species. It may be possible in the future to report an analysis of companion animal data from the countries able to provide these data.

The Group agreed to the approach for the provisional denominator as presented and agreed it should be refined as new or more precise information becomes available. The Group agreed that taking a slightly different approach for each animal species is necessary at this point in time, as well as application of different sources of data to the denominator to address discrepancies in international data sources. The Group suggested the decision-making behind the chosen data sources be documented generally in the report.

The Group also recommended that additional information and details could be available in supplementary materials.

Drs Raicek and Góchez presented a preliminary analysis of the antimicrobial quantities reported adjusted for animal biomass for 2014 and 2015. This preliminary analysis identified some anomalies in reported data, highlighting the challenges of Member Countries in reporting the amount of antimicrobials intended for use in animals (e.g. double counting of data when multiple data sources were reported). OIE will continue to engage with Member Countries to clarify and improve the accuracy of the data reporting.

## **6. Discussion on the report presenting the results for the second phase of the OIE collection of data on the use of antimicrobial agents in animals**

The OIE proposed a structure which was similar to the first phase of reporting from the global database.

For the global analysis of quantitative data adjusted by animal biomass, the Group decided that 2014 should be the focus for the global analysis. The analysis of data from 2015 is still ongoing, and may be used in the next report.

The Group suggested the title of the overall report change from the word 'use', which to some countries implies having farm-level data. The Group recommended using previously agreed upon wording 'quantities of antimicrobials intended for use in animals'.

The Group recommended that the global analysis describe variability and ranges of reporting in the data reported.

The Group also recommended that when the data allows for it, that data could be reported by antimicrobial class.

The table of contents for the upcoming report was approved and can be found in Appendix III.

## **7. Questionnaire for the third phase of the OIE collection of data on the use of antimicrobial agents in animals to be sent to Member Countries**

Based on challenges identified by the OIE during the analysis of the second phase of data reporting, an alteration to question 11 of the questionnaire was proposed, as well as the addition of a few follow up questions. The challenge the amendment attempted to address was that within the current template, some Member Countries could not accurately describe their regulations on antimicrobial growth promoters and their use in animals.

The Group recommended the following changes to this section of the questionnaire:

- Q11: Are antimicrobial agents used for growth promotion purposes in animals in your country? (Yes, no, unknown).
- Q12: Does your country have legislation/regulations on the use of antimicrobial as growth promoters in animals? (Yes – legislation/regulation exists, no – legislation/regulation does not exist).
- Q13: If your country has legislation/regulation for antimicrobial growth promotion, could you please indicate the appropriate case that applies to you country? (All antimicrobial agents banned for use as growth promoters, some antimicrobial agents banned for use as growth promoters, antimicrobial growth promoters are authorised for use).
- Q14. Provide a list of authorised antimicrobial growth promoters, if any.

## **8. Future development and perspectives including sharing of results**

### **8.1. Suggested list of species to be included in WAHIS and WAHIS+**

Drs Lina Awada and Neo Mapitse informed the Group on the current status of updating WAHIS. They indicated that the current version of WAHIS will be in place for the next two years, after which WAHIS+, a new platform, will be implemented. The Group was requested to further advise on the short and long-term changes in animal population data that will be requested in these platforms based on the needs for the denominator, and taking into account the new capacity of WAHIS+ platform for collecting data sub-categories and free text boxes.

Based on the list previously agreed by the Group in January 2017, a few amendments were discussed for addition to the current WAHIS platform from knowledge gained during development of the denominator. Particular attention was paid to grouping animals by production class and by expected average weight, to facilitate calculation of an accurate denominator. The Group noted that there may be many utilities of this information, aside from uses for reporting quantities of antimicrobial agents intended for use in animals, such as for epidemiological and disease impact analysis. The agreed upon suggestions for updates to the current WAHIS platform can be found in Appendix IV.

For the next platform WAHIS+ that will be initiated in two years, the Group recommended inclusion of several more animal production classes, as well as sub-categories and free text boxes where Member Countries would be able to provide greater detail if possible. The initiation of WAHIS+ will also allow for information to be collected on country-specific estimated weights and cycle factors, which will support future refinement of the biomass denominator calculation. The agreed upon list of suggested animal population data to be collected for WAHIS+ can be found in Appendix V.

The Group emphasised the importance of the terminology of these production classes in order to avoid confusion or double counting in the data collection. The Group provided descriptions for the animal groups suggested to support WAHIS in development of their data collection guidance, which are included in parentheses in the proposed lists.

### **8.2. Recommendations for future reporting of data on the use of antibiotics in animals**

The Group acknowledged the need to routinely re-evaluate next steps for reporting, including suggestions for data improvements, methodology refinements, and the validation process for Member Country data. The Group acknowledged that the OIE and Member Countries will gain experience working with the data, enhance understanding of the data sources, and will refine the methodological approach over time. This will improve the accuracy of the information that can be reported.

The Group recommended the following next steps for reporting:

- maximise Member Country participation;
- increase the accuracy of the numerator, the denominator, and refining the methodology for estimating both based on experience and increased level of detail reported in the future;
- provide the global analysis yearly and periodically refine the provisional denominator as appropriate based on experience and Member Country comments;
- reporting by animal species as Member Country data collection capacity improves;
- develop a process for Member Countries to validate their data, for both the numerator and denominator;
- analysis of quantitative trends over time, which as the data improve in reliability and robustness, will increase in accuracy.

The Group acknowledged that there are often external requests to the OIE to release confidential country information. Given the need to improve the data, the data sources, and the methodological approach, the Group does not believe it is currently advisable to release these data, but suggested that the OIE encourage the Member Countries to publish their own data when they are confident in their results.

The Group acknowledges that should in the future, reporting be done at the national level, the OIE would need to develop a process for Member Countries to review and concur on the data to be published.

**9. Review comments from the OIE Member Countries on the proposed updated version of the Chapter 6.7. on “Harmonisation of national antimicrobial resistance surveillance and monitoring programmes”**

The Group reviewed the further comments received from Member Countries on Chapter 6.7 of the *Terrestrial Code*.

The Group noted that Member Countries had different priorities for the range and location of samples which might be included in antimicrobial resistance surveillance and monitoring programmes. The comments received from Member Countries reflected this and were not always in agreement in relation to the emphasis which different Member Countries considered appropriate.

In relation to a request to remove animal feed and environment (and a separate request to remove animal feed) from the scope of surveillance and monitoring programmes, the Group considered that there is a need to assess sources of resistance entering the animal population and noted opposing comments, considered at the previous meeting of the Group, requesting that animal feed should be given increased prominence. The Group recommended retaining animal feed and environment and that monitoring of antimicrobial resistance in bacteria in animal feed and the environment should be considered according to national priorities. Feed is one of a number of possible sources of resistant bacteria and the purpose of the chapter is not to provide a comprehensive list of sources which might be monitored, but to provide an indication of those types of monitoring which might be performed appropriate to the national situation. Animal feed and the environment have been suggested as sources of AMR and are also mentioned in Codex Alimentarius Guideline CAC/GL 77- 2011 (Guidelines for risk analysis of foodborne antimicrobial resistance) and in Chapter 6.7 of the *Terrestrial Code*.

Based on a Member Country comment, the Group agreed to add “trends” to the description of surveillance and monitoring in the preamble to the chapter.

Although the Group agreed to retain animal feed and environment, they also revised the text of the General aspects Article (6.7.3.1) to reflect monitoring and surveillance priorities. The priority areas for monitoring and surveillance were considered to be animals, food and humans, while animal feed and environment could be included according to national priorities.

A proposal to include the term “where available” in relation to the analysis of practice records was not supported as the introductory comments to this section contains the term “may include” which already implies that inclusion of this item is optional. In relation to a request to add “caeca”, the Group agreed to add caeca as a further example of the type of sample which may be collected (Article 6.7.4.1.b.) The suggestion was adopted to amend the text to indicate that the appropriate sample size required in a sampling programme might be calculated in order to assess trends, prevalence or both. A suggestion to include the prevalence of the target bacterium into sample size considerations was also adopted. The Group did not accept editorial suggestions to amend the title of Table 1, as the proposed changes did not reflect the content of Table 1. The Group agreed to add additional rows to Table 1 to cover lower expected prevalences of 1% and 5%.

In Article 6.7.3.4 which addresses sample sources, consistent with the rationale and revisions to earlier text, the Group re-ordered the list of sample sources in the chapter to reflect those sample sources considered of highest priority. The text covering animal feed was revised to reflect the text adopted in the section covering general aspects.

The Group agreed to revise the text in accordance with comments received to clarify the expected outputs from the sampling of carcasses for bacteria, and subsequent determination of their susceptibility to antimicrobials as described in Table 2. A request to replace “prescribing decisions” with “treatment decisions” was not accepted as the current wording was considered appropriate. The Group accepted a recommendation to add a sentence covering epidemiological outputs.

A comment to add *Salmonella* and *Campylobacter* under the poultry pathogens listed in Table 3 was not supported. Table 3 focuses on animal pathogens; *Salmonella* and *Campylobacter* are already covered under the sections covering zoonotic pathogens elsewhere in the guidance.

The Group considered comments relating to the value of sampling different points along the food chain (farm, slaughterhouse, meat) and also recalled previous comments received mentioning sampling at the slaughterhouse/abattoir, in the paragraph relating to the sites of sampling. The Group proposed revised wording to accommodate all comments received. The Group agreed with comments to remove phage typing and update the text by adding genotypic methods, which are now replacing phage typing.

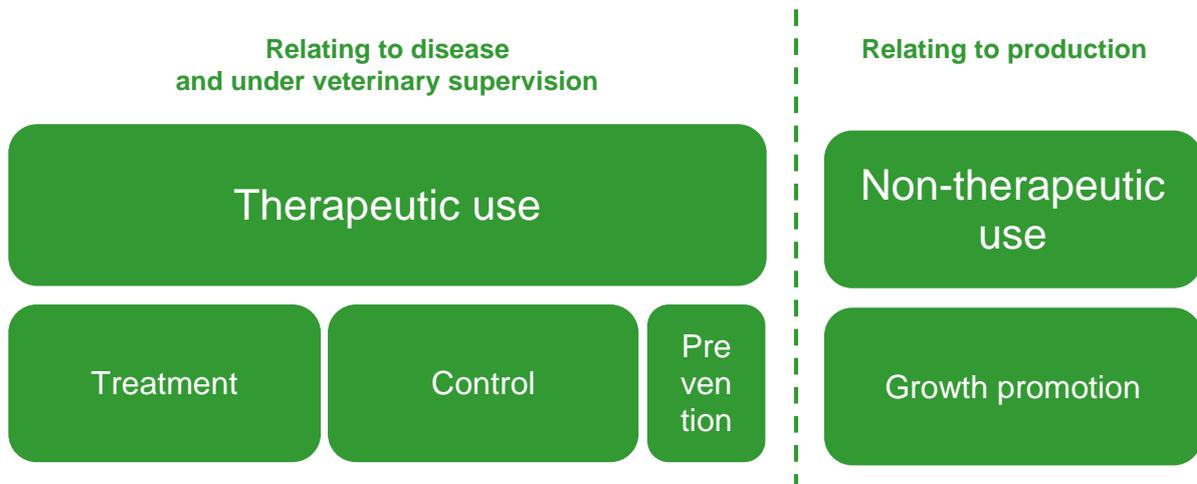
#### **10. Review comments from the OIE Member Countries on the proposed updated version of the Chapter 6.8. on “Monitoring of the quantities and usage patterns of antimicrobial agents used in food-producing animals”**

The Group reviewed the comments received on the proposed definitions for possible inclusion in Chapter 6.8 of the *Terrestrial Code*: therapeutic use, preventative use and growth promotion.

The Group considered a proposed definition from a Member Country for medically important antimicrobial drugs which was defined as “antimicrobial drugs that are important for therapeutic use in humans”. The Group focused on the potential usefulness of this proposed definition as an addition to the *Terrestrial Code*. At this stage, the Group noted that this term is not currently included or used in the OIE *Codes*. The Group recognised that further sub-division of those antimicrobials used for growth promotion was possible but also noted that the position relating to the importance of individual compounds to human medicine was not fixed but was subject to change. The Group considered the need for and potential value of this term and concluded that the concept, which relates to human health, lies within the remit of WHO and has been covered by WHO.

The Group considered text proposed in relation to the definition of preventative use and accepted most of the proposed changes which improved the clarity. The Group did not accept the proposal to delete “for a limited duration”, because among other factors, this was required to ensure differentiation of preventative use from growth promotion. The Group discussed a recommendation under the terms therapeutic use and preventative use to specify the number treated may be “one or more” and decided to revise the text using “individual or group of animals”, and agreed to add “defined” to the proposed definition for preventative use for clarity. The Group did not accept a proposal to add the term “order” because this term is not commonly used globally.

The Group reviewed and refined a graphic, illustrating the different categories of use. The graphic was intended to clearly differentiate three types of therapeutic use which should be under veterinary supervision: treatment, control and prevention.



The Group agreed that therapeutic use covered all use relating to disease and also reiterated that such use would occur under veterinary supervision.

The Group considered non-therapeutic use to include production purposes (growth promotion), as well as minor uses (e.g. skeletal marking in fish).

The Group made a minor change to the definition of growth promotion to include “in feed or water” as per a Member Country suggestion.

The conclusions of the Group were in accordance with comments received from Member Countries to adopt two broad categories: therapeutic use (related to disease and under veterinary supervision) and non-therapeutic use (related to production). The Group supported requests from Member Countries for clarity in categorising the different types of use.

The Group noted that the therapeutic use categories of treatment, control and prevention may be used or applied in several contexts. For example they may be utilised in risk management and guidance documents, and also surveillance and research. In relation to practical application of the proposed terminology (e.g., surveillance data collection), the Group noted comments received from a Member Country and agreed that it may be necessary to combine some categories of use in circumstances where data were incomplete.

The Group considered that for the purpose of these definitions, control and metaphylaxis are understood to have the same meaning. Also that prevention, preventative use, and prophylaxis are understood to have the same meaning.

The result of the proposed definitions is set out below:

**Therapeutic Use:** Administration of an antimicrobial agent to an individual or a group of animal(s) to treat, control or prevent infection or disease. The Veterinary Medicinal Products (VMP) containing antimicrobial agents should only be used on the prescription of a veterinarian or other suitably trained person authorised to prescribe VMP containing antimicrobial agents in accordance with national legislation and under the supervision of a veterinarian.

***Treatment*** means the administration of an antimicrobial agent to an individual or a group of animals showing clinical signs of an infectious disease.

***Control*** means the administration of an antimicrobial agent to groups of animals containing sick animals and healthy animals (presumed to be infected), to minimise or resolve clinical signs and to prevent further spread of the disease.

**Prevention** means the administration of an antimicrobial agent targeted to an individual or a group of healthy animals at risk of developing a specific infection or in a specific situation where disease is likely to occur if the drug is not administered, where administration is provided under the supervision of a veterinarian, using an appropriate dose and for a limited, defined duration. The Veterinary Medicinal Products (VMP) containing antimicrobial agents should only be used on the prescription of a veterinarian or other suitably trained person authorised to prescribe VMP containing antimicrobial agents in accordance with national legislation and under the supervision of a veterinarian.

For the purpose of these definitions, control and metaphylaxis are understood to have the same meaning.

For the purpose of these definitions, prevention is understood to have the same meaning as prophylaxis and preventative use.

**Growth promotion:** Growth promotion refers to the use of antimicrobial substances in feed or water to increase the rate of weight gain or the efficiency of feed utilization in animals by other than purely nutritional means. The term does NOT apply to the use of antimicrobial agents for the specific purpose of treating, controlling or preventing infectious diseases, even when an incidental growth response may be obtained (This definition is in line with the definition developed by Codex Alimentarius in CAC/RCP 61-2005.)

#### **11. OIE List of antimicrobial agents of veterinary importance**

The Group considered the OIE List of antimicrobial agents of veterinary importance. Areas of importance identified for further discussion included growth promoters, ionophores, pleuromutilins, colistin and the recent updated information produced by WHO in relation to medical antimicrobials of importance. The Group agreed that further work was required which should include reviewing and updating the recommendations which are included as part of the List. The Group further agreed that specific recommendations relating to colistin may be considered. The issues of the List will be addressed in the next meeting and any available information will be taken into consideration.

#### **12. Next OIE Global Conference on the use of antimicrobial agents and antimicrobial resistance**

It was proposed that the next OIE Global Conference on the Use of Antimicrobial agents and Antimicrobial Resistance should be held in 2018. The Group were asked to form the scientific committee for the meeting. There were no further updates on this item at this stage.

#### **13. Any other business**

The Group proposed the following dates for the next meeting: from 22 to 24 January 2018.

#### **14. Adoption of report**

The Group adopted the report.

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.../Appendices

**MEETING OF THE OIE AD HOC GROUP ON ANTIMICROBIAL RESISTANCE**

**Paris, 29 – 31 August 2017**

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**MEETING OF THE OIE AD HOC GROUP ON ANTIMICROBIAL RESISTANCE**

**Paris, 29 - 31 August 2017**

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**REPORT PRESENTING THE RESULTS FOR THE SECOND PHASE OF THE OIE COLLECTION OF  
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**Annex 9.** Distribution of countries by region according to the OIE Note de Service 2010/2012

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Appendix IV

**List of animal categories or animal species suggested  
to be included in updated WAHIS (current version)**

<b>ANIMAL CATEGORY</b>
<b>Cattle</b>
Adult beef cattle (2+ years) Adult dairy cattle (2+ years) Males and females (1-2 years, including feedlot cattle) Calves (<1 year)
<b>Buffaloes</b>
<b>Cervidae</b>
<b>Pigs</b>
Adult (breeding) pigs Fatteners Piglets (pre-weaning) Backyard pigs
<b>Birds</b>
Broiler chickens Layer chickens Turkeys Other birds Backyard poultry
<b>Small ruminants</b>
Sheep and goats (mixed herds) Adult (breeding) sheep Adult (breeding) goats Lambs (<6 months) Kids (<6 months)
<b>Equidae</b>
Horses Donkeys/Mules/Hinnies
<b>Camelidae</b>
<b>Hares and Rabbits</b>
Rabbits Hares
<b>Cats</b>
<b>Dogs</b>
<b>Fish (farmed)</b>
<b>Molluscs (farmed)</b>
<b>Crustaceans (farmed)</b>
<b>Amphibians (farmed)</b>

## List of animal categories or animal species suggested to be included in WAHIS+

<b>ANIMAL CATEGORY</b>
<b>Cattle</b>
Adult cattle, males and females (2+ years) <i>Adult dairy cattle</i> <i>Adult beef cattle</i> Males and females (1-2 years, including feedlot cattle): cf <i>Males and females, 1-2 years, dairy cattle</i> <i>Males and females, 1-2 years, beef cattle</i> Calves (<1 year) cf
<b>Buffaloes</b>
Adult buffalo Calves (<1 yr)
<b>Cervidae</b>
Adult cervidae (text box to specify) Calves (<1 yr)
<b>Pigs</b>
Adult (breeding) pigs Fatteners cf Piglets (pre-weaning) cf Backyard pigs
<b>Poultry</b>
Broiler chickens cf Layer chickens cf Turkeys cf Other birds (text box to specify) Backyard poultry
<b>Small ruminants</b>
Sheep and goats (mixed herds) Sheep <i>Adult (breeding)</i> <i>Lambs (&lt;6months) cf</i> Goats <i>Adult (breeding)</i> <i>Kids (&lt;6months) cf</i>
<b>Equidae</b>
Horses Donkeys Mules/Hinnies
<b>Camelidae</b>
Camels Llamas Alpacas
<b>Hares and Rabbits</b>
Rabbits Hares

<b>Companion animals</b>
Cats Dogs Other companion animals (text box to specify)
<b>Aquaculture</b>
Fish Molluscs Crustaceans Amphibians
<b>Reptiles (farmed)</b>

cf: denotes where collection of a cycle factor would be needed

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