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# USAID EAST AFRICA TRADE AND INVESTMENT HUB

MANUAL OF INSPECTION PROCEDURES FOR ANIMAL HEALTH

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## Acronyms

CAC	Codex Alimentarius Commission
CBPP	contagious bovine pleuropneumonia
CCP	critical control point
EAC	East African Community
ELISA	enzyme-linked immunosorbent assay
EU	European Union
H5	haemagglutinin subtype 5 of avian influenza virus
HACCP	hazard analysis critical control point
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
N7	neuraminidase subtype 7 of avian influenza virus
OIE	World Organisation for Animal Health, formally Office International des Epizooties
SOP	standard operating procedure
WHO	World Health Organization
WTO	World Trade Organization

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# **I. Introduction**

## **I.1 Objectives**

### **I.1.1 Facilitation of inter-community trade**

This manual is intended to build the capacity of animal health inspectors and certifying officials on inspection in order to achieve greater, freer and more efficient trade within the East African Community (EAC). With the ratification of the Treaty for Establishment of the EAC and the enactment of the Protocol on the Establishment of the EAC Common Market, it was expected that no new non-tariff barriers to trade would be created by the Partner States and that existing barriers would be progressively eliminated (EAC, 2009; 1999). Inspection procedures for animal health can be an unnecessary barrier to trade if they are conducted arbitrarily, in a discriminatory manner or without scientific justification (WTO, 1995). They may impose unnecessarily costs on entrepreneurs and occasion delays that might render inter-community trade uncompetitive. This manual aims to clarify and harmonise the inspection procedures for the most commonly traded commodities in EAC, i.e. live cattle, milk and milk products and poultry, and to speed up decision-making on requests for importation of trade animals and their border clearance.

### **I.1.2 Protection of importing Partner States' animal health status**

The protection and improvement of the status of health of a state's animal herds and flocks are rights and legitimate goals (WTO, 1995). States expect that the animals they import and their products will not be a vehicle for the introduction of exotic pathogenic agents into their territory, zones or herds. States have the right to prescribe animal health and product safety requirements for consignments proposed for exportation into their territories and expect that these requirements will be addressed by competent authorities through satisfactory inspection and certification of the consignments. These requirements are frequently called "import permits". This manual covers risk-based inspection at the level of the farm or establishment from which the animals for export are sourced and at the checkpoints on the transportation route and the border post. The inspection of the consignment will enable its tenable certification for undertaking risk management measures in compliance with the importing Partner State's requirements.

### **I.1.3 Quality assurance of inspection services**

This manual elaborates on the process for the application of inspection standards under ISO 17020 and the certification standards of the World Organisation for Animal Health (OIE). The standard procedures for animal health inspection covered in this manual provide transparency and consistency, which are necessary in giving assurance and confidence to trading partners on the quality of inspection that is carried out. A veterinary authority implementing this manual during animal health inspection will be in a position to seek accreditation for the ISO 17020 standard.

## **I.2 Scope**

### **I.2.1 Priority commodities**

This manual focuses on health inspection of the most traded animal commodities in EAC. Table1 shows the value of live animal trade within EAC. Bovine animals and poultry are the most traded commodities, each worth over US\$ 2 million per year. The manual deals with cattle and poultry, specifically domestic fowl, and also fresh and pasteurised bovine milk. The procedures covered are applicable to other species of animals, with the necessary modification.

Table 1: Live animal trade within the East African Community

	Value of EAC Partner States' imports from other EAC Partner States (US\$ thousands)		
	2014	2015	2016
Bovine animals	1,508	9,594	2,268
Poultry	2,793	2,267	2,131
Sheep and goats	81	155	1,309
Equine animals	2	11	52
Swine	22	241	8
Other animals	27	107	56

Source: Trade Map (2017)

## 1.2.2 Hazards and risks

A hazard is a pathogenic agent that is present in the exporting country but is absent or under an official control programme in the importing country, with both importing and exporting countries having competent veterinary authorities (OIE, 2017a). The EAC Partner States have largely the same animal health status, according to the disease information they have submitted to the World Animal Health Information Database (OIE, 2017b). None of the EAC Partner States has made a notification of applying an official disease control programme or of being free from a disease on a country, zone or compartment basis. The reporting of the presence or absence of a disease in a certain year has been based on general surveillance, which may not be very sensitive or specific. For that reason it is difficult to confirm any OIE-listed disease agent as a hazard in the EAC live animal trade.

The agents for bovine tuberculosis, contagious bovine pleuropneumonia, avian influenza, and fowl typhoid and pullorum disease have been selected for consideration in this manual not because they have been confirmed as hazards in intra-EAC trade but for the following reasons:

- It is possible to establish that a herd is free from bovine tuberculosis and to recognise such herds and it is likely that such herds exist in the EAC Partner States, though the surveillance systems in use have not yet identified them. Additionally, bovine tuberculosis is transmissible through both live animals and dairy products, which is an apt reason to use it to demonstrate both animal health and milk safety inspection procedures.
- Burundi has not reported contagious bovine pleuropneumonia (CBPP) for many years, but the other Partner States are infected by it. Burundi's status is unknown and the country could be free from the disease or not. As with bovine tuberculosis, there is a likelihood that areas free from the disease exist but are undocumented owing to inadequacies in surveillance.
- Avian influenza was recently reported and resolved in Uganda after being introduced through wild bird immigration. The incorporation in the manual of inspection procedures targeting avian influenza will provide EAC competent authorities with a tool to use as part of their overall surveillance and also for early detection of the disease in case a new wave is introduced from wildlife or trade with third countries.
- Fowl typhoid and pullorum disease has been reported in Burundi, Rwanda and Uganda in the recent past but not in Kenya or Tanzania. Under a strong surveillance system, for example targeted surveillance, such a report would qualify fowl typhoid and pullorum disease as a hazard.
- Bovine tuberculosis, CBPP and fowl typhoid and pullorum disease have the potential to occur in non-clinical carriers, necessitating the inspection of the biosecurity of establishments as well as the use of sampling and testing as additional risk management measures.

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## **2. Human resource requirements for inspection**

The veterinary authority should deploy a sufficient number of animal health inspectors for the work. The required staffing level will be determined by the workload, the obligation to avoid unnecessary delays and the number of working shifts at the various inspection points. The inspectors should be given written instructions on their duties, roles and responsibilities by the veterinary authority. The inspectors should have the knowledge, skills and independence to do their work, should practise confidentiality and should be monitored in their work as described in this manual. The veterinary authority should maintain a record on the knowledge, skills, experience and authorisation of each inspector.

### **2.1 Knowledge requirements**

Animal health inspectors should have good knowledge in their field of work. They should be conversant with the requirements of the importing country and should be able to attest to them through inspection. They should be aware of the international standards on official controls and be competent to implement them in their work. A veterinarian recognised by a statutory veterinary body has the day-one competence to carry out animal health inspection. A veterinary paraprofessional would first undergo dedicated training and mentorship and would serve under the direction and responsibility of a veterinarian. An inspector should attend training regularly, at least once a year, to keep up with new knowledge and technology in the field.

The veterinary authority should document the academic and technical knowledge requirements for animal health inspectors in its schemes of service and in their job description.

### **2.2 Skill requirements**

Animal health inspectors should have the ability to carry out their duties in a proficient and professional manner. Skills are imparted through training and work, which earn the inspector experience and confidence. Often, inspectors will have to apply professional judgement in their work, and it will require that they have good skills to make the correct decisions.

The veterinary authority should document the skill requirements for its inspectors and should provide the needed training and facilitate exposure missions for personnel carrying out inspection.

### **2.3 Independence and impartiality in inspection**

Animal health inspectors should carry out their duty independently. Independence requires that the inspectors' decisions be based purely on their professional knowledge, competence and inspection findings, and should not be influenced by the fear of superiors, intimidation by clientele or undue duress imposed by the veterinary authority or the border post management authority. A commodity might be released by another inspection agency at the border post based on the commodity's satisfaction of that agency's requirements but the animal health inspector might find the commodity unfit for health reasons. Such circumstances place great pressure on the inspector to accede also. The inspector should not succumb to pressure but should explain the professional underpinnings for his or her decision, preferably in writing.

Animal health inspectors should have no conflict of interest in their inspection tasks. For example, inspectors are not expected to inspect their own consignments of export commodities as they would not be objective. They should operate without any commercial, financial, hierarchical or other pressure that might affect their professional judgement (OIE, 2017c).

Inspectors should be impartial also in their work; they should be reasonable and should not favour or discriminate against customers. A situation where an inspector demonstrates favouritism for or discrimination against commodities from one country vis-à-vis those from another country of the same health status is a serious and unnecessary barrier and would set off a trade dispute that the inspector's

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country would lose, as that action by the inspector is prohibited in international trade. Animal health inspectors should uphold a high plane of integrity, discipline and dignity in order to engender confidence in the inspection findings among all the concerned parties.

Where the veterinary authority delegates any of the inspection roles to another legal entity, such delegation should be based on a written legislation that specifies its extent and duration, the monitoring process for the performance of the entity during that period and the procedure of delegating and withdrawing delegation. The legal entity may be an individual veterinarian or a veterinary organisation, and it should satisfy the professional requirements of animal health inspection and uphold independence and impartiality in carrying out the delegated work.

It is the obligation of the veterinary authority to identify and document the risks to the independence and impartiality of its inspectors and provide a framework for mitigating them. In addition, the veterinary legislation applied by the veterinary authority should specifically protect the inspectors from adverse administrative, hierarchical or legal action for decisions they make in good faith in their duty.

## **2.4 Confidentiality in inspection**

An animal health inspection is carried out in confidence and its findings are confidential. The report from the inspection should be made available to only the customer and the supervising veterinary official, and should not be disclosed in whole or in part to third parties. The confidential nature of the relationship between the inspector and the customer should be elaborated to the customer in order to achieve cooperation and full disclosure.

Occasionally, legislation may require disclosure of the report of an inspection to such third parties as the general public, the police or the courts of law. In such cases the inspector should make available the part of the report with the information that is required by the court and not the full report. By their nature, notifiable diseases should by law be reported by the farmer to the veterinary inspector and subsequently notified to the public and the OIE by the chief veterinary officer. It may also occur that the inspection reveals information that is important for the protection of public health and safety, in which case the veterinary authority may seek the cooperation of the customer to release that information to the public.

The veterinary authority should provide safe custody for all inspection reports to uphold their confidentiality. There should be a legal framework setting out how long such reports should be held before being released for access by the public.

## **2.5 Monitoring of inspectors**

Veterinary authorities should have a programme and procedures for monitoring animal health inspectors. Monitoring should be through the reports submitted by inspectors to the supervising veterinary official, who would peruse them and give feedback to the inspector, as appropriate. There should also be on-site visits by a person conversant with the inspection methods, who should observe the inspector at work and record the performance accordingly. It may also be achieved by simulating inspections and gauging the performance of the inspectors, or the carrying of out interviews with customers and the inspector.

The findings of the monitoring activity should be used by the veterinary authority to assess the technical performance of the inspectors and to determine the scope of the next scheduled training for these personnel. Monitoring reports may also indicate if there are integrity or independence issues facing the individual inspector, which the veterinary authority should address.

# **3. Physical capacity requirements**

Animal health inspection for certifying export consignments of live animals is carried out at various points along their transportation route, which in EAC may be on land, air or water. It would start at the establishment of origin, i.e. the premises where the animals are kept, for example a farm or a hatchery, or

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at a quarantine station. The vessel of transportation and the consignment of the animals also should comply with the animal health and welfare requirements, which would need to be verified through inspection. For long journeys over land, resting points should be provided by exporting and importing countries for use by the animals and their handlers. Minimum inspection is carried out in these facilities. At border points inspection is carried out usually by several relevant agencies such as the customs department and the veterinary authorities of the exporting and importing Partner States. At all these inspection points, adequate facilities and equipment should be made available for the task, as detailed in this manual.

### **3.1 Physical capacity requirements at the establishment level**

Establishments should make available facilities at which the inspection of their biosecurity status and of animals would be carried out. For farms, these facilities are usually provided by the proposed exporting farmer and comprise animal holding crushes and rooms for inspection of documents and for protecting specimens before their transportation. For establishments operating under the approval system of the veterinary authority such as hatcheries and breeding farms, the requirements for the facilities for inspection are defined in the official specifications for the premises and cover the areas for animal examination, specimen collection and packaging, and sanitisation of personnel and equipment before and after the inspection.

### **3.2 Suitable equipment for inspection**

The inspector should prepare and have in position adequate inspection equipment. For live bovine animals, the equipment comprises restraining gear, personal protection kits, clinical thermometers, stethoscopes, sampling kits, transport media for specimen, biohazard containers, cool packs and boxes or portable refrigerators, personnel sanitising kit, stationery, and vehicle disinfection kits. In addition, catchers and humane killing kits should be included when inspecting bird establishments.

Specific equipment is needed for inspecting cattle for tuberculosis, which comprises needles and syringes for administering bovine tuberculin purified protein derivative and the comparison avian tuberculin into the skin, and callipers for measuring the swellings after 72 hours. For CBPP, the inspection kit should include vacutainers for collecting blood and cryovial tubes for the harvested serum. The diagnostic laboratory should have available microtitre tubes, pipettes and their tips, and either the modified Campbell & Turner complement fixation test kit or the competitive enzyme-linked immunosorbent assay kit (OIE, 2014).

Live poultry trade usually involves hatching eggs and day-old chicks. For both of these commodities veterinary certification is based on the inspection of the flock of origin, which should be free from fowl typhoid and pullorum disease (OIE, 2017d). Such inspection would involve determining the status of the establishment's biosecurity; detecting contamination of the feed, water and the environment; and testing of a sample of the parent flock. The inspection kit should include sterile cotton swabs and their carrier bags; sampling bags for faeces, debris, eggshells and fluff; needles; white tiles; fine glass rods; and the field kit for the rapid whole blood plate agglutination test (OIE, 2012).

With respect to ascertaining freedom from avian influenza, flock inspection is relevant only if the establishment of origin is located in a country, zone or compartment that is free from the disease (OIE, 2017n). EAC Partner States should therefore implement the OIE-recommended surveillance system to confirm their status before requiring flock inspection for avian influenza in their importation permits and interpreting the findings of such inspections. Where such inspection is relevant, the inspection kit should include sterile cotton swabs and their carrier bags; the antibiotic solution for the conveyance of swabs of the oropharynx, cloaca or faeces while at the diagnostic laboratory where the specimen would be tested; 9–11 day embryonated eggs; and the kit for reverse-transcription polymerase chain reaction. Haemagglutination inhibition (HI) test kits should be made available for routine surveillance.

Bovine milk and other dairy products for export should either be derived from animals that are free from *Mycobacterium tuberculosis* complex infection, or it should be treated by pasteurisation or its equivalent (OIE,

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2017e; CAC, 2004). Many countries require that milk be processed using the hazard analysis critical control point (HACCP) system; therefore, the inspection for milk safety is an assessment by the animal health inspector of the operation of that system.

### **3.3 Suitable transportation for the inspector**

The inspector should have suitable transportation to access the inspection point while carrying inspection equipment and collected specimens. The carriage should be made of material that can be disinfected and that should protect the kits from damage en route to the establishment and to the diagnostic laboratory. The carriage should protect the inspector against harsh weather such as rain and hot sun.

### **3.4 Suitable transportation equipment for specimen**

Where specimens are dispatched to the laboratory by mail or courier, the packaging should uphold the International Air Transport Association guidelines for specimen transportation. This requires the use of triple packaging, where the specimen, which is put in the primary leak-proof container, is wrapped with an absorbent and protective material and placed in the inner receptacle of the packaging, which is labelled with a list of the contents. Written in indelible ink, the label should contain the identity and address of the inspector; the name and address of the establishment or consignment sampled; the species, breed, sex, age and identity of the animals from which the specimens were collected; the tracking number if available; the dates of the specimen's collection and submission; the type of sample and of the transport media used; and any epidemiological information available to the inspector. This inner receptacle is similarly wrapped and placed in the larger outer secondary leak-proof receptacle, which is then placed in the shipping packaging, also labelled and addressed with the same information as on the inner receptacle (Okurut, 2011).

### **3.5 Physical capacity at quarantine stations**

Quarantine stations, as defined in the OIE standards, are ideal facilities for carrying out animal health inspection (OIE, 2017f). They provide all the structures and capacities for inspection, which comprise good biosecurity status, facilities for clinical examination of animals and for collecting specimens, a diagnostic laboratory for testing specimens, documentation capacity, and good disinfection and disinsection facilities for animal consignments and vessels going into and out of the station. For animal welfare, quarantine stations should be able to provide adequate feed and potable water to the animals held in there for the time required period.

### **3.6 Physical capacity at resting points**

Resting points, commonly called animal holding grounds, provide the facilities for resting, feeding or watering of animals. Their structure should ensure that the health status of travelling animals is not compromised during the resting period. The consignment of animals admitted in the resting point should not get into contact with other animals in the community or other consignments and should also not be exposed to airborne or vector-borne hazards. Though the structure is not a quarantine station, it should nevertheless be biosecured with a perimeter fence that is able to maintain a barrier from the introduction of hazards and a decontamination facility, and it should provide safe feed and potable water.

Two kinds of animal health inspection are carried out at resting points. Firstly, the structure is inspected for its suitability for offloading, loading and holding animals for a short period without exposing them to hazards or compromising their welfare, and for safe disposal of biological waste in the consignment (Compassion in World Farming, 2006). This is a moderate biosecurity and structural assessment that is carried out through observation of facilities and examination of the records, and the inspector requires only stationery for the task. Secondly, the animals admitted into a resting point are inspected to ensure that their health and welfare status has not deteriorated during their journey. The animals may be examined and rested while in the vessel or they may be offloaded into the structure from where they are inspected. In the latter case, the resting point should have animal-holding crushes and restraining

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equipment, as well as equipment for taking the vital parameters of body temperature and pulse and respiratory rates, assessing bowel movement, and collecting, packing and transporting specimens as necessary.

### **3.7 Physical capacity at border posts**

Border posts are airports, land crossing points, inland freight stations and sea or lake ports where people and cargo leave or enter a country. At the border post, animal health inspectors are deployed by the veterinary authorities to inspect consignments of animals and their products, their conveying vessels and the accompanying formites such as forage, water and beddings. Whereas airports, sea ports and lake ports would have inspectors from either the exporting or importing EAC Partner State, land crossing points have inspectors from both the importing and the exporting states. EAC is implementing the one-stop border post policy, where the agencies of both the exporting and the importing states closely cooperate in the use of the structures and inspection of cargo, with such border posts being expected to provide quarantine areas for animal health inspection (EAC, 2016).

A border post should have the physical facilities for enabling the proper inspection of animals and animal products. There should be animal-holding structures and restraining equipment to enable clinical examination of the animals; collection of specimens; diagnosis and treatment of the animals; safe disposal of waste; and administration of disinfection and disinfestation measures at level equivalent to that of a quarantine station. Incineration is the measure of choice for waste disposal at border posts (OIE, 2017f). The border posts that are properly equipped with all these facilities should be notified to all EAC Partner States and OIE, and the Partner States importing live animals should require that the animals go through those specific border posts.

## **4. Sampling and inspection procedures**

Sampling and testing are important steps in the animal health inspection procedure. Sampling is done at the establishment of origin, the quarantine station, the resting point or the border post. Testing of samples may be done at the sampling point if field tests approved for international trade are available, or in diagnostic laboratories. To provide confidence in the results of a diagnosis, the diagnostic laboratory should be accredited to ISO/IEC 17025:2005 or the equivalent OIE Quality Standard and Guidelines for Veterinary Laboratories: Infections Diseases (OIE, 2017g).

Details on the sampling, testing and inspection procedures for the agents of bovine tuberculosis, CBPP, fowl typhoid and pullorum disease, and avian influenza are provided below.

### **4.1 Sampling and inspection procedures for bovine tuberculosis**

#### **4.1.1 Sampling for bovine tuberculosis testing**

The bovine tuberculosis test is a herd test. This means that sampling is not done but all the cattle in the herd that are over six weeks old are tested, and if any tests positive, the whole herd is considered as infected. The herd is considered not infected if testing of the entire herd turns negative for two consecutive times six months apart and if the establishment is regarded as maintaining a high plane of biosecurity (OIE, 2017e). The herd is considered to maintain its free status if inspection for biosecurity and testing is repeated annually or at the time considered equivalent in international standards.

#### **4.1.2 Inspection procedures for cattle for *Mycobacterium tuberculosis* complex**

##### *Procedure at the establishment*

Routine inspection at the establishment aims at verifying the establishment's biosecurity controls and the health status of the herd. If the management of the establishment regularly tests for the disease as

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provided in international standards, the inspection exercise would not include testing of the animals; verification of the records and assessment of biosecurity controls would suffice.

For herds proposed for export from establishments that do not regularly test for *Mycobacterium tuberculosis* complex, full inspection, which comprises biosecurity assessment and testing of the herd, would be done.

The inspector will start with the biosecurity assessment, observing the status of the gate control and inspecting the records to ascertain that the controls used ensure that only animals, semen and embryos of disease-free status are introduced into the herd. Observation and the records will also show how human movement in and out of the establishment is controlled and whether the handlers of the animals in the establishment are screened for tuberculosis.

The inspector will note the disinfection measures employed at the gate, in the dairy and in the animal premises. He or she will observe the integrity of the perimeter fence and its ability to keep out of the establishment stray animals and wildlife competent to transmit *Mycobacterium tuberculosis* complex. The inspector will note if there are dams or rivers in or traversing the establishment and the controls taken to prevent access to them by wild animals or other animals from the neighbouring community.

The inspector will find out if the water fed to the herd is potable, which would involve observation and examination of any testing records for the water. In the absence of such records, the inspector will sample the water and send it for laboratory testing. He or she will also observe and peruse the documents to find out the measures taken to ensure that animal feedstuff is not contaminated with *Mycobacterium tuberculosis* complex. Finally, the inspector will assess the general hygiene of the establishment and more so the animal sheds and dairy.

#### **Herd free of *Mycobacterium tuberculosis* complex**

The herd satisfies the following requirements:

- i. Infection with *M. tuberculosis* complex in animals is a *notifiable disease* in the entire country;
- ii. No occurrence of infection with *M. tuberculosis* complex has been detected in the herd for at least the past 12 months;
- iii. Bovids or cervids in the herd have shown no clinical signs of infection with *M. tuberculosis* complex or lesions at ante- or post-mortem inspections for at least the past 12 months;
- iv. Two tests have been performed with negative results at a minimum interval of six months on all bovids or cervids over six weeks of age present in the herd at the time of testing. The first test was performed at least six months after the removal of the last case;
- v. Bovids or cervids and their germplasm introduced into the herd comply with Articles 8.11.7., 8.11.10., 8.11.11 and 8.11.12;
- vi. For at least the past 12 months, there has been no occurrence of infection with *M. tuberculosis* complex in other herds of the same establishments or measures have been implemented to prevent any transmission of infection with *M. tuberculosis* complex from these other herds.

Source: OIE Terrestrial Code Article 8.11.6

The inspector will note whether the standard operating procedures (SOPs) for the various activities are available and displayed as appropriate, including procedures for recruiting new animals, gate control, wildlife and rodent control, and disposal of waste and dead animals, as well as personnel hygiene rules and the general establishment hygiene rules.

The inspector will test all the animals in the herd older than six weeks. This will be guided by the importing Partner State's requirements, which most likely will be in accordance with the OIE standards. Testing will involve comparative tuberculin testing. He or she will mark the skin site at mid-neck, shave and clean the site and measure its thickness. Next he or she will inject into the skin at that site 0.2 ml of bovine tuberculin purified protein derivative with at least 2,000 international units, and then 2,000 international units of avian tuberculin at a site 12–15 cm away (OIE, 2015). The inspector will examine all the tested animals after 72 hours and measure the size of the swellings at the two sites. If the difference between the size of the swelling from the bovine tuberculin purified protein derivative injection and the

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avian tuberculin injection is more than 4 mm, the diagnosis will be recorded as positive. If the swelling from the bovine tuberculin is larger than that from the avian tuberculin but the difference is less than 4 mm, the diagnosis will be recorded as inconclusive. The diagnosis will be regarded as negative if the swelling at the bovine tuberculin site is smaller than or equal to the swelling at the avian tuberculin site. For inconclusive diagnoses, the test will be repeated after 42–60 days and the cattle that are not negative at that time will be considered positive.

Cattle selected for export should be tested twice for *Mycobacterium tuberculosis* complex while in isolation, with an interval of six months between the tests, and in both instances the results should be negative. The last test should be done within 30 days before the day of shipment. Preferably on the day of shipment and not more than 24 hours before shipment, the consignment should be reinspected for any evidence of clinical signs of bovine tuberculosis or other disease and for fitness to travel, which considers both the animals' health and welfare status. The health inspection involves observation and clinical examination, where vital parameters are taken. For the animal welfare status and fitness to travel evaluation, the inspector will ascertain the physiological condition of the animals and the proposed mob formations during travel, which considers the age, sex and temperament of the animals. The vessel proposed for shipping the animals also will be inspected to ascertain its suitability. Specifically, the inspector will be interested in how the various mobs will be separated, spacing of the animals, the feeding and watering facilities on the vessel, beddings, management of temperature, ventilation of the chambers to be occupied by the animals and containment of animal waste, competence of the animal handlers, and suitability of the driver to manage the journey. The consignment will be adjudged fit to travel if the importing Partner State's requirements and those of any transit Partner State have been satisfied; the consignment is free from clinical signs of disease; the animals are properly identified; the transportation is likely to ensure good animal welfare; the vehicle is suitable, clean and sanitised; the animal handlers are suitable; and a journey plan has been prepared and documented (OIE, 2017h).



A vehicle that may be suitable for transporting cattle over land (Photo: courtesy of pdcommercials.co.uk).

### ***Procedure at resting points***

Two kinds of animal health inspection are carried out at resting points. Firstly, the inspector will ascertain that the facility is suitable for holding animals in transit for a short period. This is a biosecurity assessment. This inspection is conducted well ahead of the use of the facility for any resting animals. The inspector will find out if there are safe loading and unloading ramps, whether there is an effective perimeter fence to secure animals and limit the opportunities for disease transmission, whether feeding and watering of animals is provided for, whether there is protection from adverse weather, whether there is disinfection capacity for vehicles, whether there are facilities for animal health and welfare emergencies and whether the facility has capacity for safely disposing of waste such as dead or humanely killed animals (OIE, 2017i).

Secondly, the veterinary authority should be responsible for animal health management at the resting points, and therefore the inspector should have a procedure for receiving animals into the facility, which should comprise observation and examination of the animals to determine their health and welfare status and examination of accompanying documents to ascertain the consignment's compliance with importing and transit Partner States' requirements.

### ***Procedure at the border post***

Live cattle consignments at the border post are handled by several agencies, including the veterinary authority and the customs department, as well as counterpart agencies from the neighbouring Partner State in the case of land crossing border posts. Though the customs department is responsible for the

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consignment, which it considers as goods, the veterinary authority is responsible for the health and welfare of the animals and should take the necessary measures to prevent shipment of animals infected or suspected of being infected with disease, and the entry into the vessel of possible vectors and other agents of disease (OIE, 2017h).

The animal health inspector at the exporting or one-stop border post should carry out sanitary document inspection and animal inspection. The documents that should be examined comprise the import requirements cum import permit from the importing Partner State and the international veterinary certificate issued by the exporting Partner State. Only original documents are inspected, though copies should be sent to the border post in advance and perused by the inspector and the customs officer in order to prepare for the imminent arrival of the consignment (OIE, 2017j). The documents will be adjudged to be in order by the inspector if the international veterinary certificate ascertains that all the requirements specified in the import permit have been met. The inspector at the importing border post should similarly examine the original documents and should reach a similar verdict if all the requirements have been attested to in the international veterinary certificate.

At the border post animals are inspected in the quarantine area or the area of direct transit, if it is available. Where the area of direct transit is provided by an airport and approved by the veterinary authority, inspection of the animals may be done on the vessel and will involve observations as well as the clinical examination of a randomly selected number of the animals. For the hazard of *Mycobacterium tuberculosis* complex, collection of specimens would not be applicable. Where inspection is done in the quarantine area, the animals in the consignment are offloaded and surrendered to the facility. The inspector will conduct a clinical examination of the animals and carry out a necropsy of any carcase of an animal in the consignment, from which he or she will also collect specimens for diagnostic purposes. He or she will isolate the animals that are sick or suspected to be infected in order to prevent the further spread of the disease.

A consignment will be adjudged fit and will be released to progress with the journey if the inspection reveals that the requirements of the importing country are satisfied and the sanitary documents are in order. If either the sanitary documents are not in order or a disease has been suspected or detected in the consignment, the animals will be held at the border post pending the resolution of the matter. The exporting veterinary authority should be informed of the inspection results and be given the opportunity to correct any defective document or to verify the diagnosis of the disease. According to OIE standards, if the diagnosis of a listed disease, *Mycobacterium tuberculosis* complex or another hazard agreed between the importing and exporting countries is confirmed or the international veterinary certificate cannot be corrected, then the animals in the consignment will be returned to the exporting country, slaughtered or destroyed (OIE, 2017k).

#### 4.1.3 Sampling milk for bovine tuberculosis testing

As with live cattle imports, the sampling, testing and inspection processes for milk for the tuberculosis agent will be determined by the requirements of the importing EAC Partner State. Nevertheless, such requirements would be based on the standards of OIE and Codex Alimentarius Commission (CAC) unless the importing state can justify through risk analysis its reason for requiring higher standards.

Three kinds of inspection may be conducted on dairy products: inspection of the herd of origin, inspection of the milk itself, and assessment of the operation of the HACCP system in the processing plant. The HACCP assessment is done at the milk processing plant while the resultant sanitary documents are examined at the border post.

<p>When importing milk and milk products of bovids, veterinary authorities of importing countries should require the presentation of an international veterinary certificate attesting that the milk or milk products:</p> <ol style="list-style-type: none"><li>1) Have been derived from bovids in a herd free from infection with <i>M. tuberculosis</i> complex; OR</li><li>2) Were subjected to pasteurization or any combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.</li></ol>
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Source: OIE Terrestrial Code, 2017

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Milk from a herd free from *Mycobacterium tuberculosis* complex is free from the bacterium and does not require other inspection relating to that bacterium (OIE, 2017e).

Milk may be inspected in the dairy farm or at the collection centre and at the border post. Unless the inspection of milk is for the purpose of monitoring a pathogenic agent in the community, milk testing for food safety, as with all the other end-product testing, is unrewarding for the regulatory agencies and consumers. Also it is hardly possible to collect an adequate number of samples to give results with a high confidence level, and if an adequate number of samples are collected, the cost of running the tests is prohibitive. Evaluation of the hygiene of the whole milk production system, pasteurisation and the use of the HACCP procedure in the processing plant are adequate to ensure milk safety and consumer health.

An EAC Partner State importing milk may opt to directly audit and approve the milk production and delivery system and its processing plant after which it can import consignments from that plant without other inspection or certification for safety for a period, usually a year (CAC, 2005). The major markets such as the European Union and United States use this prequalification and approval system (EU, 2017; Government of USA, 2015).

Where it has been decided to inspect milk for *Mycobacterium tuberculosis* complex, sampling should be done from pooled herd milk or individual animal milk; sampling milk from bulk supplies is not appropriate. Samples of 15–20 ml of fresh milk are collected from deliveries selected at random at the milk collection points or in the farm. Some authorities preserve the samples with antibiotics such as chloramphenicol to facilitate transportation to the diagnostic laboratory (Government of South Africa, 2016).

#### **4.1.4 Inspection procedures for milk and dairy products for bovine tuberculosis**

##### *Inspection procedure for herds of milk origin*

The inspection procedures for the herd of milk origin is the same as for live cattle, as detailed in 4.1.2, including the verification of good hygiene elements and of the general control of food hazards in the herd.

##### *Testing of milk samples*

The testing of milk is carried out by centrifuging the sample and staining the sediment using the Ziehl-Neelsen method and examining it under a microscope for acid-fast bacteria. Alternatively, the sediment may be cultured under enriched media for *Mycobacterium tuberculosis* complex and the growth identified through microbiological and chemical tests.

##### *Verification of HACCP in a milk processing plant*

The technology of pasteurising milk is geared towards killing the *Mycobacterium tuberculosis* complex in milk, and the product from the process is deemed free from the hazard. The HACCP system incorporates pasteurisation. CAC has developed guidelines for the application of the HACCP system (CAC, 2003). The major markets such as the European Union, United States and China have adopted the HACCP system as the safety assurance procedure of choice for milk and other foods (Government of China, 2017; Government of USA, 2017; EU, 2016).

At the processing plant, the entry point for the milk safety inspector in the HACCP system is at the verification step, where the inspector should:

- Review the entire HACCP system and plan and its records. The inspector will find out if an HACCP team is in place and its competence, if there is a documented HACCP plan and if it covers the hazards of concern stated in the import requirements, and if the operations produce and secure records for verification of the processes and the results and for audit purposes.
- Review deviations and product dispositions in the system. The inspector will assess how deviations from the good operation of the HACCP system are addressed in the plant; for

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example the plant may be shut down after detection of a deviation or the product may be shunted back to the pre-deviation point.

- Confirm that critical control points (CCPs) are kept under control. The main CCP for *Mycobacterium tuberculosis* complex is the pasteurisation point, where milk is heated at a temperature of 72 °C for 15 seconds. The inspector will verify whether there is documentary evidence that milk is being heated at that temperature and for that period. He or she may visit the CCP and physically observe how it is operating.
- Where possible, validate the activities, including the actions to confirm the efficacy of all elements of the HACCP system. The inspector may wish to take samples of the final product to test for *Mycobacterium tuberculosis* complex in order to confirm that the HACCP system has operated as required.

### *Inspection of milk and milk products at the border*

The inspection of milk and milk products at the border post comprises examination of the original import requirements and sanitary certificates (that is the pre-approval certificate, the health certificate, or the international veterinary certificate) and a physical examination of the packages to check the cold chain, signs of spoilage and leakage, and the suitability of the vessel in terms of hygiene and refrigeration requirements, as necessary. Where the sanitary documents are found to be in order, the consignment is in good state and the vehicle is suitable, the consignment will be cleared to proceed with transportation to the destination. But where the documents are found to be erroneous, the consignment to be spoiling or the vessel to be unfit, the cargo is held at the border post pending the resolution of the matter.

## **4.2 Sampling and inspection procedures for contagious bovine pleuropneumonia**

The CBPP test is a herd test and its diagnostic results are interpreted at the herd not the individual animal level. Only cattle meant for immediate slaughter may be imported from an infected country, zone or compartment (OIE, 2017).

### **4.2.1 Sampling for CBPP testing**

All cattle older than six months in a herd from which cattle are proposed for export should be tested. The inspection and testing should be carried out when the herd is in isolation either in a biosecure establishment or in a quarantine station. The inspector will collect blood from the herd for extraction of serum, which will be sent to the diagnostic laboratory for the modified Campbell & Turner complement fixation test or the competitive ELISA test. If any head of cattle is found to be positive, the entire herd will be rejected for export. The herd will be considered non-infected if it is negative on two consecutive tests administered 21–30 days apart.

<p>When importing domestic bovids for slaughter from CBPP infected countries or zones, <i>veterinary authorities</i> should require the presentation of an <i>international veterinary certificate</i> attesting that the animals:</p> <ol style="list-style-type: none"><li>1) Showed no clinical sign of CBPP on the day of shipment;</li><li>2) Originate from an <i>establishment</i> where no case of CBPP was officially reported for the past six months; and</li><li>3) Are transported directly to the <i>slaughterhouse/abattoir</i> in sealed vehicles.</li></ol> <p style="text-align: right;"><i>Source: OIE Terrestrial Code, 2017</i></p>
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### **4.2.3 Inspection procedure for CBPP**

Animal health inspection for CBPP for cattle proposed for movement or export will be carried out following a procedure similar to that for *Mycobacterium tuberculosis* complex. The establishment of the herd's origin will be assessed for good biosecurity, and a finding on the effectiveness of its animal and formite control measures will be made. The herd should have been routinely maintained free from CBPP

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and tested regularly and should not have had a case of CBPP in the previous six months. For that information the inspector would evaluate the health records of the establishment.

However, if the establishment had not been testing the herd for CBPP, the inspector will draw blood from all the cattle older than six months to prepare serum for testing. This will be repeated after 21 days. On the day of shipment, the inspector will examine the proposed consignment for clinical signs of CBPP, which include anorexia, fever, and respiratory signs such as dyspnoea, polypnoea, cough and nasal discharge. He or she will also examine the animals for fitness to travel and will assess the proposed vessel of conveyance for its suitability and if it is sealable.

The consignment will be adjudged as healthy and fit to travel if all the requirements of the importing EAC Partner State have been satisfied, the welfare of the consignment would not be compromised in the journey, the vessel is fit for the purpose and it has an effective seal, and the animal handlers and driver are competent. Conversely, the consignment will not be adjudged as healthy and fit for exportation if there are biosecurity weaknesses in the establishment, a case of CBPP has been reported in the herd in the previous six months, any of the tested cattle was positive for the disease, the vehicle and the handlers are unsuitable, the journey preparation is not completed, or an animal is showing clinical signs of CBPP on the day of shipment.

The sealing of the vessel provides added assurance that the animals that were loaded at the start of the journey will be the animals that will arrive at the destination. Therefore, offloading of the animals at the resting point or at the border post should not be done, and the animals will be rested or inspected while on the vessel.

At the border post the animal health inspector will evaluate the original import requirements and the international veterinary certificates accompanying the animals, checking whether all the requirements have been met. He or she will also physically observe the animals and may make clinical examinations as necessary. He or she will assess the welfare status of the consignment and check whether the state of the vessel and the handlers will allow safe completion of the journey. Where the sanitary documents are found to be in order, the animals are healthy and in good state of welfare, and the vehicle is still fit and sealed, he or she will clear the consignment to proceed with the rest of the journey. If any of these requirements is not met the consignment will be impounded at the place of quarantine and the matter will be resolved per procedures (see section 4.1.2).

### **4.3 Sampling and inspection procedures for fowl typhoid and pullorum disease**

The test for fowl typhoid and pullorum disease is a flock test and therefore the results are interpreted at the flock level. Though the traded commodities for fowls are usually day-old birds and hatching eggs, the test is not administered on them but on older members of the parent flock. This manual covers sampling and inspection processes that are necessary for trade in day-old chicks and hatching eggs of the domestic fowl, *Gallus gallus domesticus*, which are the most traded commodities in EAC. It is understood though that trade in live adult chicken and other bird species is also possible. Day-old chicks and hatching eggs are traded from hatcheries or other establishments that meet the OIE standards of biosecurity (OIE, 2017m).

#### **4.3.1 Sampling for testing for fowl typhoid and pullorum disease**

A serological test, the rapid whole blood agglutination test, is available for testing for fowl typhoid and pullorum disease for the purpose of inspection of fowls for trade. It is administered in the field on the parent flock and the results are available immediately. The number of samples that would be collected and tested depends on the expected prevalence of the disease in the flock and the level of confidence desired. For small flocks of less than 200 birds the whole flock is tested. The Draft EAC Harmonized Sanitary Measures for Mammals, Birds and Bees suggests that the sample size for each flock should be calculated “so as to obtain a 95% confidence of one positive case when the disease is present at 5% infection level” (EAC, 2006; personal communication). Based on this measure and the population of a flock, the actual sample size may be estimated by use of software like WinEpiscope (Thrusfield, 2001) or through

calculation using the following formula, which assumes a perfect test (Royal Veterinary College, 2014; personal communication):

$$n = [1 - (\alpha)^{1/d}] \times [N - \frac{1}{2}(d-1)]$$

where;

<i>n</i>	<i>is the random sample size</i>
<i>α</i>	<i>is the precision i.e. 1 minus confidence, in decimals, e.g. for 95% (0.95) confidence, α is 1-0.95 = 0.05</i>
<i>d</i>	<i>is the number of diseased birds, derived from expected prevalence and population size, e.g. with prevalence of 5% (i.e. 0.05) in a flock of 1000, d would be 0.05 x 1,000 i.e. 50</i>
<i>N</i>	<i>is the population of the flock</i>

Example:

For a flock of 1,000 parent stock, the Draft EAC measure on sample size estimation would yield;

$$n = \left[ 1 - (0.05)^{1/50} \right] \times \left[ 1000 - \frac{1}{2}(50-1) \right] \text{ which is } 56.7 \text{ or } 57 \text{ birds.}$$

For imperfect tests, i.e. where sensitivity and specificity of the test are not 100%, the following formula may be used for random sample size estimation (Royal Veterinary College, 2014; personal communication):

$$n = \ln(\alpha) \div (\ln |(P \times (1-Se) + (1-P) \times Sp)|)$$

where;

<i>n</i>	<i>is the random sample size</i>
<i>ln</i>	<i>is the natural logarithm</i>
<i>P</i>	<i>is the estimated prevalence of the disease</i>
<i>Se</i>	<i>is the sensitivity of the test</i>
<i>Sp</i>	<i>is the specificity of the test</i>

For the example above on the Draft EAC measure, in a flock of 1,000 birds, a test sensitivity of 0.84 and a test specificity of 0.96, the random sample size would be  $\ln(0.05) \div (\ln |(0.05 \times (1-0.84) + (1-0.05) \times 0.96)|)$ , i.e. 35.9 or 36 birds.

The inspector will put a drop of the antigen onto a white tile, draw a drop of blood from the sampled bird by puncturing its wing web with a needle, mix the blood with the antigen on the tile, stir the mixture with a fine glass rod and rock the tile for two minutes and then read the results. The same procedure will be carried out with a control serum. The antigen will clump for a positive result but not for a negative result (OIE, 2012).

#### 4.3.2 Inspection procedure for fowl typhoid and pullorum disease

Three kinds of inspection are carried out with respect to fowl typhoid and pullorum disease: for routine disease management or as a prerequisite for official approval of the hatchery or an establishment, for certification, or for border clearance for trade.

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### *Routine and pre-approval inspection*

The inspector will assess the status of the biosecurity of the hatchery or establishment based on OIE standards (OIE, 2017m). He or she will then sample and test the birds for fowl typhoid and pullorum disease and also assess the surfaces for possible contamination by the disease agent.

The inspector will confirm whether the international standards detailed in Chapter 6.4 of the OIE Terrestrial Animal Health Code on Biosecurity Procedures in Poultry Production have been met. Those standards offer guidance on the suitable siting and location of the establishment; perimeter fencing; control of movement of birds, people and formites; prevention of the entry of wild birds, rodents and arthropods; establishment construction material and specification of layout; enforcement of the all-in-all-out principle; documentation of the biosecurity plan and other sanitary records; water and feed safety measures; management of disease and infectious agents by veterinarians; traceability of eggs and chicks; the system of disinfection, disinsectisation and disposal of waste; and measures for cleaning and sanitisation of hatching eggs.

The inspector will then sample and test the birds for fowl typhoid and pullorum disease in the establishment or hatchery.

Finally, the inspector will swab the surfaces and collect materials likely to be contaminated with the agents of fowl typhoid and pullorum disease such as eggs; embryos; faecal droppings; and hatcher debris, especially fluff, dust and broken eggshells and chick box lining. These swabs and samples are sent to the diagnostic laboratory for culturing of the microorganism, which is done in selective and enriched media such as MacConkey agar (OIE, 2012).

Where the biosecurity status of the establishment or hatchery is adjudged as compliant with the international standards and is found to be likely to remain so for a period, for example, of a year, the birds as free of fowl typhoid and pullorum disease and the environment as not contaminated with the pathogen or other vertically transmitted pathogens, the inspector will recommend the approval, renewal of approval or maintenance of approval of the establishment or hatchery's authorisation to operate by the veterinary authority through, for example, a license or a certificate.

### *Inspection for certification for trade*

The inspection of day-old chicks and hatching eggs for international trade is guided by the requirements of the importing EAC Partner State, which should be based on OIE standards or, if scientifically justified, higher standards, in line with the country's appropriate level of health protection. The requirements would include attestation to the biosecurity status of the establishment or hatchery of origin, freedom of the commodities from fowl typhoid and pullorum disease, and compliance with the requirements for the hygiene of the packaging of the consignment.

The inspector will visit the establishment or hatchery and evaluate its compliance with importation requirements. He or she will want to see the instrument of recognition or approval from the veterinary services, the documented biosecurity plan and details on its application, monitoring and surveillance reports, and results from routine testing for fowl typhoid and pullorum disease and other

When importing day-old birds, veterinary authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. Come from establishments and/or hatcheries which are recognized as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. Were shipped in clean and unused packages.  
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When importing hatching eggs of domestic birds, veterinary authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. Have been disinfected in accordance with the standards referred to in Chapter 6.4.;
2. Come from establishments and/or hatcheries which are recognized as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. Were shipped in clean and unused packages.

Source: OIE Terrestrial Code, 2017

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common hazards. He or she will confirm whether the packaging to be used is clean and unused, and assess the suitability of the vessels proposed for the transportation of the birds or eggs, which should ensure their health, welfare and safety for the whole journey.

If the establishment or hatchery is adjudged to be biosecure, the establishment and the older parent stock to be free from fowl typhoid and pullorum disease, the packaging to be new and clean and the vessel to be suitable for the intended purpose, the exportation of the commodity will be allowed. But if the hatchery or establishment is not recognised by veterinary services, is not biosecure and does not routinely monitor for fowl typhoid and pullorum disease; if testing revealed that the flock was infected with the pathogen; or if the transportation vessel is unsuitable, the proposed exportation will not be allowed.

#### *Inspection at border posts*

Animal health inspection at the border post comprises examination of commodities to verify their compliance with import requirements and with the international veterinary certificate attesting to those requirements. The inspector will also physically examine a sample of the chicks in their packages to assess their health and welfare status, or a sample of the hatching eggs in their packages to assess if any damage or spoilage has occurred. He or she will also inspect the vessel to confirm that it is still suitable for the remaining journey. Where the sanitary documents are found to be in order, the chicks are healthy and comfortable and the vessel is fit, the inspector will clear the consignment to proceed with the rest of the journey. But if the sanitary documents are incorrect; the birds look uncomfortable or sick or an unusually large number are dead; the eggs look damaged or spoiled or the vehicle is found unfit, the consignment will not be cleared to proceed with the journey but will be held at the place of quarantine pending the resolution of the matter. The manner for that is similar to the procedure in section 4.1.2.

## **4.4 Sampling and inspection procedures for avian influenza**

Avian influenza testing is a flock test. A negative result would be valid only if the country, zone or compartment in which the flock is located is free from the disease, where freedom is understood to mean that infection with avian influenza viruses has not been present in the country, zone or compartment, and the international standard for surveillance has been applied (OIE, 2017n). The establishment or hatchery of origin of the day-old chicks or hatching eggs should be biosecure (OIE, 2017m). Routine inspection for avian influenza should be part of the overall surveillance activities in the compartment, zone or country.

### **4.4.1 Sampling for testing for avian influenza**

The requirements of the importing EAC Partner State may specify the sampling and testing requirements with respect to avian influenza, which could be more or less like those specified in the Draft EAC Harmonized Sanitary Measures. Nevertheless, the sample size for routine inspection would be calculated following the process described in section 4.3.1 of this manual.

Routine inspection would be based on serological testing of random samples and should be repeated regularly within every 21 days for flocks in the establishment of concern (OIE, 2017n). Where a positive result is returned on serology, the inspector should investigate that result by testing samples for the virus.

The inspector will draw blood for serum production from the birds in the parent flock that have been randomly selected. During the visit, the inspector will also collect oropharangeal and cloacal swabs from the selected birds or fresh faeces. These samples should be placed in isotonic phosphate-buffered saline at pH 7.0–7.4 with antibiotics or a solution containing protein and antibiotics (OIE, 2015).

At the diagnostic laboratory, the HI test will be administered on the serum samples as described in OIE (2015). A negative result means that the sample does not have antibodies of subtypes H5 and N7 of the influenza A virus and the sampled bird may be considered uninfected. A positive result may mean a false positive or that the bird was exposed to influenza A viruses. Where a positive result is returned, the oropharangeal or cloacal swabs or fresh faeces should be tested using the reverse-transcription

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polymerase chain reaction technique or the virus isolation procedure. This may confirm if the result was a false positive or if indeed the bird was infected. Where infection is confirmed, a full investigation to determine the pathogenicity of the virus should be initiated as the control measures are instituted.

#### 4.4.2 Inspection procedures for avian influenza

The inspector will carry out physical observations, evaluation of records and sampling of the chicks for testing as guided by the import requirements. He or she will assess the status of the biosecurity of the establishment or hatchery and determine if it complies with international standards (OIE, 2017m). Where the establishment carries out routine monitoring and surveillance for avian influenza, the inspector will assess the reports of the work to find out if it is done competently and whether the procedures followed and the results obtained may be taken as valid in accordance with the import requirements. Where the establishment or hatchery does not carry out regular surveillance for avian influenza, the inspector will sample the older birds in the flocks (see section 4.4.1 for how this will be conducted) for subsequent laboratory testing.

For consignments proposed for export, the inspector will further evaluate the suitability of the vessel proposed for transportation and also the packaging to be used, which should be clean and new. Where the import requirements have been satisfied and confirmed by inspection and the packaging and vessel are suitable, exportation of the commodity will be allowed. However, if the import requirements are not met, the packaging is not new or the vessel is unsuitable, exportation of the commodity will not be allowed.

At the border post, inspection would comprise an examination of both the original import requirements cum import permit and the original international veterinary certificate, as well as physical examination of a selected sample of packages to observe the health and comfort status of the chicks or the condition of the hatching eggs. The inspector will also assess whether the vessel transporting the consignment is still suitable.

When importing day-old live poultry, or hatching eggs of poultry, from a country, zone or compartment free from avian influenza, veterinary authorities should require the presentation of an international veterinary certificate attesting that:

- 1) The day-old live poultry, or hatching eggs of poultry, were kept in an avian influenza free country, zone or compartment since they were hatched;
- 2) The day-old live poultry, or hatching eggs of poultry, were derived from parent flocks which had been kept in an avian influenza free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
- 3) The day-old live poultry, or hatching eggs of poultry, are transported in new or appropriately sanitized containers.

If the day-old live poultry or the parent flocks have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

*OIE Terrestrial Animal Health Code, 2017*

Where the sanitary documents are in order, i.e. the import requirements have been correctly attested to in the international veterinary certificate, the chicks are healthy and comfortable or the eggs are not destroyed or spoiling, and the packages and vessel are suitable, the inspector will clear the consignment to proceed with the rest of the journey. But if the sanitary documents are incorrect, an unusual number of chicks are sickly or dead or the hatching eggs spoil, or the packaging and the vessel are unfit, the consignment will be held at the place of quarantine pending the resolution of the matter, which will follow the process described in section 4.1.2 of this manual.

## 5. Documentation and reporting of inspection results

The results from the animal health inspection should be properly documented and a report written and filed. Good documentation will facilitate the building of the confidence of the clientele and will also facilitate the monitoring and auditing of the inspection work and the resolution of any dispute that may

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arise relating to the results of the inspection. A good report will record the answers the client desires in an orderly and coherent manner and also facilitate decision-making on whether biosecurity of the establishment will be approved or not, and whether exportation or importation of the commodity will be allowed or rejected. These reports should be accessible when needed.

## **5.1 Supporting documents for inspection results**

The results from inspection should be supported by documents, which are the instructions given to the inspector, the rough notes he or she took during the inspection, the records of the interviews with the various respondents during the mission, the diagnostic laboratory results, the measurements taken by the inspector, the photographs taken during the inspection and the copies of the relevant sanitary documents routinely prepared by the management of the establishment that was inspected.

## **5.2 Inspection report format**

The veterinary authority should prescribe a format for animal health inspection reports. Such a format may provide for inclusion of the following items:

- the identity of the veterinary authority,
- the facility or establishment where the inspection was conducted,
- the date and time of the inspection,
- the name(s) of the staff who carried out the inspection and their unique identifier(s),
- the identification of the client,
- the legal foundation of the inspection,
- the unique identification of the report, which should appear on every page,
- the paginating system, which indicates the page number against the total number of pages in the report,
- description of the inspection work ordered,
- identification of the commodities inspected,
- description of the inspection method and procedure applied,
- specification of the equipment used and sampling and testing methods applied,
- information on environmental conditions during inspection,
- inspection results,
- information on any assumptions made during inspection,
- a statement of whether the results conform to the import requirements,
- the signature of inspector,
- date of issue of the report.

## **5.3 Complaints, disputes and appeals**

Complaints, disputes and appeals may arise in relation to an animal health inspection. A client may complain about the procedures followed, dispute the findings of the inspection or appeal for reconsideration of certain aspects of the report. The veterinary authority should document the process of receiving and acknowledging complaints, disputes and appeals, how it validates them, and how they are investigated and resolved. The aggrieved person should be given progress reports on how the matter is being addressed and should also be informed about the final decision, which should be communicated by a person not involved in the inspection that is the subject of the complaint, dispute or appeal.

## **5.4 Veterinary inspection certificates**

Animal health inspection for trade invariably leads to the issuing of an international veterinary certificate. The animal health inspector might be also the certifying veterinarian but it could be a different person. The certifying veterinarian should be officially authorised by the veterinary authority to sign international veterinary certificates, and the authority should have procedures for such authorisation, which should include defining the functions and duties of the certifying veterinarians, their oversight responsibilities and accountability, and the processes for their suspension and termination from such authorisation (OIE,

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2017o). The veterinary authority should train the certifying veterinarians appropriately and also monitor their activities to verify their integrity and impartiality.

Where the certifying veterinarian is not the animal health inspector handling the consignment proposed for export, he or she should have verified the inspector's report or be in possession of the report from the inspector and its supporting documents before signing the international veterinary certificate. The certificate should be signed on the day of the shipment of the consignment or within the time specified in the import requirements.

The certifying veterinarian should adopt the format of the model veterinary certificate provided by OIE (OIE, 2017p). The colours of the text on the certificate, the signature of the certifying veterinarian and the official stamp of the veterinary authority should all be different. Only original certificates should attest to and accompany the consignment on the journey, though photocopies may be sent in advance to the border post as a notification of the imminent arrival of the consignment.

## 6. The quality management system

A quality management system ensures that errors in a service are prevented so that customers are better served. The veterinary authority should implement processes and procedures and conduct activities geared toward ensuring that import requirements are met through animal health inspection without mistakes and errors so that importing EAC Partner States are satisfied with the service rendered. The authority should have a quality policy, which is an official commitment to ensure quality, including continuous improvement in quality. A senior staff in the veterinary authority should be designated the quality management system manager and should be responsible for implementing the quality system. The quality system particulars should be documented and all staff trained on it so that they understand and internalise it. The system should include a plan for service improvement towards attaining the quality objective.

A quality management system is implemented at the levels of the individual inspectors and the veterinary authority itself as the inspecting body.

### 6.1 Quality management for individual inspectors

The quality of animal health inspection by an individual inspector is monitored and ensured through the following processes and procedures:

- **Comparison of results:** This procedure evaluates inspectors by asking several of them to carry out an inspection exercise whose results are already known and then assessing their performance. The comparison of the results from the individual inspectors assures the management of the quality of their services or identifies areas and persons who need more training and practice.
- **Measurement audits:** The tools, equipment and kits used during inspection are audited for their accuracy in measurement. Defects that are noted are corrected and where their performance is validated, this finding is documented.
- **Technical witnessing:** This exercise involves the quality manager observing the individual inspector at work and witnessing his or her operation during a simulated inspection. The manager will note the inspector's strengths, weaknesses or mistakes, which will be the basis of further training and practice for the inspector. This procedure may also include an interview with the inspector as he or she simulates inspection.
- **Review of records and supporting material:** This process requires the quality manager to study the records and supporting material produced by the inspector to assist him or her to determine if the inspector is making mistakes. Such mistakes would be corrected through further training, practice or exposure.

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- **Review of reports:** The reports of inspection assignments carried out by an inspector are good monitoring tools for the management of the quality of inspection. These reports are reviewed by the manager to gain insight into the inspector's operation, approach and competence and method he or she uses to reach findings.
  - **Interviews with clients whose animals or establishment has been inspected:** This process requires the manager to conduct interviews with clients who have been served during inspection activities to gauge the performance of the inspector and the satisfaction of the client. The interviews may be physical or through the telephone.

## **6.2 Quality management system for the veterinary authority as the inspection body**

### **6.2.1 Document control**

The veterinary authority should have a formal system for controlling inspection documents. This should comprise a registry for hard and soft copy documents, with assured security and backup. Soft copy libraries should be secured from unauthorised access, copying and transmission of documents.

### **6.2.2 Records management**

The veterinary authority should have in place a formal system for the control of records such as inspection reports and their supporting documents. The system should be based on a policy that should cover aspects such as document confidentiality, the period the documents are to be stored by the organisation, archiving procedures, and the conditions for document declassification to allow public access.

### **6.2.3 Internal audit**

The veterinary authority should operate or have access to an independent unit charged with the responsibility for carrying out a periodic internal audit of its functions and services both for the authority as a corporate organisation and for its individual officers. Basing its work on the commitment to quality of the veterinary authority and on the quality manual, the audit unit would find out whether the services offered conformed to the requirements and standards, for example whether inspection was being carried out correctly, documents were being issued correctly and the decisions taken were correct. Internal audit reports would serve as an independent tool for monitoring compliance with the requirements and standards by the veterinary authority and its inspectors. Internal audits should be able to reveal if the organisation and its inspectors suffer from the negative maladies of miscertification, fraud, lack of independence and integrity, and corruption.

### **6.2.4 Preventive action**

The veterinary authority should develop, document and implement a system for preventive action where errors are foreseen. Such a system may include spot checks, simulation exercises and supervisory guidance. Where measurements and their accuracy are relevant in the inspection findings, the equipment used in such inspection should be obtained from reputable sources, calibrated and regularly checked for accuracy by an accredited metrology body. When preventive action is taken it should be documented.

### **6.2.5 Corrective action**

The veterinary authority should have a system for corrective action for instances of nonconformity. This should cover aspects such as how correction of errors in official documents and inspection reports is made ensuring that a trail of documentation on the action taken is left. For example, where an error in a veterinary certificate has been detected, the authority may recall the document and issue a new one, but it should note in the unique identifier that the new document is a revision of the original document. Alternatively, the error in the document may be struck through and accompanied with the signature of

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the authorised official and the date and then stamped with the official stamp or seal. The system should detect and take corrective action on errors from measuring and testing equipment or kits. The corrective action taken should be documented.

### **6.2.6 Management review**

The management of the veterinary authority should have a system for reviewing its entire inspection operations periodically, for example annually, based on the results of an assessment of its management of quality. The authority may also evaluate its services using the OIE Tool for the Evaluation of Performance of Veterinary Services. Such a review should lead to an improvement of the weak areas, with the goal of raising the quality standards.

### **6.2.7 Accreditation to ISO 17020**

The veterinary authority should seek accreditation to ISO 17020 for its animal health inspection services. Accreditation may be issued to the authority after an assessment by an accreditation body. The implementation of the provisions of this manual and the documentation of evidence of its implementation will form a strong basis on the decision on accreditation. The attainment of the accreditation status would go a long way in providing assurance and confidence that the international veterinary certificates issued by the veterinary authority for animal health inspection conform to the requirements of the importing EAC Partner State.

## **7. Documented SOPs and protocols**

The use of SOPs in animal health inspection simplifies a complex process and also ensures that there is uniformity and consistency in inspection. SOPs in animal health are based on regulations and are therefore synonymous with protocols. It is the responsibility of the veterinary authority to document the SOPs in animal health inspection and to train the inspectors on their application. This manual provides examples of SOPs for several of the more complex facets of inspection, i.e. inspection for the status of biosecurity in an establishment desirous of exporting live cattle, inspection of a hatchery for official approval, inspection of the biosecurity of a poultry production farm with the potential to export its products, and inspection of live cattle, poultry and milk at the border point.

### **7.1 SOPs for the inspection of biosecurity in a bovine establishment**

The questions that an inspection for assessing the biosecurity status of an establishment seeks to answer are whether there is negligible risk of the introduction of the hazard of concern into the establishment and whether the claim of herd freedom from the hazard is tenable. The following stepwise SOP is followed during the inspection:

- Step 1: Notify the establishment of the imminent inspection exercise and the date and time the inspector will arrive and what cooperation will be expected from the management of the establishment.
- Step 2: Before visiting the establishment, the inspector will observe the appropriate hygiene controls to prevent him or her from introducing hazards into the establishment during the inspection, especially making sure to be free of hazards transmittable to the animals and to not have visited an establishment infected with a hazard communicable to the animals within the period set out for such a hazard by the veterinary authority.
- Step 3: Using a checklist, the inspector will confirm that he or she has all the tools, equipment, stationery, kits and personal protection gear for carrying out the inspection.

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Step 4: At the entry to the establishment and after paying a courtesy call on the management, the inspector will disinfect himself or herself and then don protective gear.

Step 5: The inspector will first observe the measures being applied to control the movement of animals, vehicles, feed and people from and into the establishment. Using a checklist and a notebook for documenting the observations, the inspector will establish the following:

- Whether there is signage outside the establishment providing instructions on the movement of persons and vehicles. If yes, the inspector may take a photograph of the signage;
- Whether the establishment is surrounded by a perimeter fence. If this is so, the inspector will note down the description of the fence, whether the perimeter fence is animal proof with respect to domestic animals and wildlife, and hindrance to trespassers. The inspector may take a photograph of the representative parts of the fence;
- Whether there is one or more entry points into the establishment, one being the preferred number;
- Whether there is a controlled gate, and if yes, the inspector will describe the gate;
- Whether the gate is staffed, and if yes, the inspector will describe how the gate is staffed;
- Whether the gate has a disinfection footbath for persons. The inspector will record the name of the chemical used for disinfection and its concentration and the how often it is changed or topped up;
- Whether the gate has a disinfection wheel bath or spray race for vehicles. The inspector will establish if the wheel bath is able to fully wet the tyres of vehicles commonly entering the establishment;
- Whether there is a functional and clean personnel showering system;
- Whether there is a log at the gate where all people, vehicles, feeds and animals entering or leaving the establishment are recorded. If yes, the inspector will check for consistency of the documentation;
- Whether the persons entering the establishment do so in their street clothes or whether farm wear is provided at the gate.

Step 6: The inspector will then visit the records office of the establishment where, using a checklist and a notebook to record observations and interviewing the management, he or she will assess the following:

- The records on how inputs such as feed, fertilisers and drugs are sourced and whether there is any vendor declaration or if any verification of compliance with regulations is made by the management during their purchase;
- The records on how new animals are introduced, including any accompanying veterinary certificate and copy of the movement permit. He or she may request photocopies of these sanitary documents;
- The records on procedures applied in the establishment, specifically for:
  - identification of individual animals
  - vaccination of animals
  - treatment of animals
  - testing of animals
  - testing of feed
  - testing of water
  - safe disposal of manure, slurry, beddings and dead animals
  - cleaning and use of disinfectants
  - other inspections by a competent party, and copies of results
  - vermin and rodent control
  - stray animal control
  - copies of SOPs used in the establishment

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- Step 7: The inspector will tour the entire establishment, starting with the dairy or milking area then move on to the calf pen, the young stock paddocks and end with the older pregnant or dry herd. Using a checklist, he or she will take note of the following:
- The general layout of the establishment and how the animal premises are sited or arranged in consideration of risk reduction;
  - Whether there is signage in various departments giving clear instructions to personnel, especially on:
    - hygiene of persons working closely with animals
    - cleaning and disinfecting of the premises, equipment, tools and clothing
    - monitoring and reporting of sickness in animals
    - animal recording
    - handling of sick and healthy animals
  - Whether there are separate premises for holding new animals for a period before they are mixed with resident herds;
  - How new animals are treated before joining resident herds;
  - Where feed is stored and whether the premises is clean and dry;
  - How vermin, rodents and stray animals, including birds, are controlled;
  - How water is supplied in the premises and whether it is potable;
  - Whether there are rivers and public roads traversing the establishment;
  - Whether there are dams and stagnant water in the establishment and whether they are a breeding ground for insects or attract wild animals and vermin;
  - Whether there are facilities or procedures for separating sick and healthy animals;
  - How pastures and forage are managed to reduce risks.
- Step 8: [This would be the next step if the animal inspection was part of a mission, for example if a request for exportation of the animals was being considered]. The inspector will inspect the cattle first in their premises in the different departments and then in the examination crushes. The inspector will take the vital parameters and then collect samples as necessary.
- Step 9: The inspector will clean and disinfect himself or herself, doff protective gear, sanitise himself or herself again, get into street clothes and exit the establishment.
- Step 10: When back in the office the inspector will commence the preparation of the report of the inspection while awaiting the diagnostic testing results for any samples. After these arrive he or she will complete the report. The report should record the factual aspects of the inspection of the establishment. It should also include the professional opinion of the inspector on whether the risk of introduction of hazards into the establishment is negligible and whether the claim of herd freedom from the hazards was tenable at the point in time of the inspection.

## **7.2 SOPs for inspection of a hatchery for official approval**

Day-old chicks for trade are produced by hatcheries. Their health status is a reflection of the hygiene and biosecurity measures in the hatchery and the health of the parent stock. The purpose of inspection would be to determine whether the biosecurity measures and procedures applied in the hatchery are able to prevent the introduction of hazards into the facility that may subsequently be disseminated from the facility through trade (OIE, 2017m). The stepwise SOP for inspecting hatcheries is as follows:

- Step 1: The inspector will take the necessary steps to plan and prepare for the inspection, comprising informing the management of the hatchery to be inspected of the imminent mission; ensuring that he or she is not infectious with a hazard that may be introduced into the hatchery by keeping off other poultry, poultry farms, poultry waste, and processing plants; and ensuring that he or she has stocks of the necessary tools, equipment, kits and personal protection gear for the work.

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- Step 2: The inspector will make observations on whether the siting of the hatchery is in a suitably isolated location and away from commercial and residential areas, main roads, other establishments raising poultry and livestock, and wild bird concentration sites.
- Step 3: The inspector will assess the slope and drainage of the site of the hatchery to:
- Find out if the land has adequate drainage to prevent clogging and swamping;
  - Establish if the runoff from the premises and untreated waste from the hatchery have any chance of draining into waterfowl habitats.
- Step 4: The inspector will make observations, take photographs and measurements such as on size of the gate and fence or length of wheel bath, and review the records on the measures taken to control the movement of people, vehicles, birds, feed, beddings, equipment, machines and other formites into or out of the hatchery. Using a checklist and a notebook to note down the observations, the inspector will establish the following:
- Whether the hatchery has a perimeter fence and, if yes, whether the fence is able to prevent the entry of unwanted animals and people;
  - Whether there is signage at the gate indicating that the facility has restricted entry for persons and vehicles;
  - How authorisation for entry into the facility is given or denied. The management should not allow entry of persons who have had recent contact with other poultry, poultry waste or a poultry processing plant;
  - Whether there is a disinfection footbath for persons and a wheel bath or spray race for vehicles, and which chemicals are used in them and in what concentrations;
  - Whether there is a gate control with provisions for showering or cleaning for persons and changing of clothing to facility clothes;
  - Whether there is a log of records of entry and exit of persons, vehicles, birds and eggs.
- Step 5: The inspector will inspect the construction work of the premises and establish the following:
- Whether the construction material is adequately impervious to enable effective cleaning and disinfection;
  - Whether the area immediately around the buildings is paved or made of concrete in order to allow proper cleaning and disinfection and to check the access to the building by vermin and rodents;
  - Whether the premises are rid of unwanted vegetation and debris that could harbour rodents and other vermin or fruit trees, which could encourage access to the premises by wild birds;
  - Whether the orientation of the long axis of the building is in the east–west direction in order to avoid draught and extreme temperatures in the premises.
- Step 6: The inspector will further inspect the entire layout of the hatchery to determine the following:
- Whether the layout achieves a one-direction movement of eggs and chicks, which should be east to west, starting from egg receiving to chick sorting and chick storage;
  - Whether the hatchery building provides physical separation of the areas used for the following activities:
    - personnel changing of clothing, showering and sanitation
    - receipt, cleaning, sanitising, storage and transfer of eggs
    - setting of eggs
    - incubation
    - hatching
    - sorting, sexing and other handling of day-old chicks
    - storage of egg boxes, boxes of day-old chicks, egg flats, chick box liners, chemicals and other items
    - equipment washing and disinfection

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- waste disposal
  - dining of personnel
  - office space

Step 7: The inspector will then make observations, examine records and take measurements to establish whether the management of the hatchery has a written biosecurity plan and whether the plan is being implemented fully. The following items should be assessed:

- Whether the personnel are trained on the purpose and implementation of the biosecurity plan;
- Whether the personnel are able to communicate in a manner that minimises the introduction and dissemination of hazards;
- Whether traceability would be possible for day-old chicks from the hatchery;
- Whether and how records are kept. Records should be kept on individual flock basis with data on:
  - chick health
  - bird production
  - treatments and medications used
  - vaccination, including the vaccine used, its batch number, manufacturer and manufacturing date, vaccination dates and the name of vaccinator
  - mortality
  - surveillance for diseases of concern and the findings
  - hatchability
  - cleaning and disinfection on buildings and equipment
  - records of SOPs used in the hatchery, including procedures for prevention of entry of wild birds and the control of vermin, rodents and arthropods.
- Whether health monitoring in the hatchery is under the supervision of the veterinarian;
- Whether antimicrobial drugs are used in accordance with the directions of veterinary services;
- Whether egg handlers and sexers and handlers of day-old chicks wash their hands with soap and water before commencing work and between working with batches of hatching eggs and day-old chicks from different breeders' flocks;
- Whether hatching eggs and day-old chicks from different breeder flocks are identifiable during incubation, hatching, sorting and transportation.

Step 8: The inspector will then find out whether waste is safely disposed of in a manner to forestall and prevent the build-up of hazards. Specifically the inspector will establish whether:

- Dead-in-shell embryos are removed from hatcheries without delay and safely disposed of;
- Waste, garbage and discarded equipment are contained or covered on the site and removed from the hatchery without delay;
- Hatchery equipment, tables and surfaces are cleaned and disinfected promptly after use.

Step 9: The inspector will take water samples and also swabs of the equipment, tables and surfaces used in the process of hatching chicks and send them for testing for hazards.

Step 10: The inspector will pass through the footbath to access the personnel changing and showering facilities. Subsequently he or she will doff the facility's clothing, shower, wear street clothes and exit the facility.

Step 11: When back in the office the inspector will prepare the report of the inspection, which he or she will complete after receiving any results from the diagnostic testing of samples. The report should capture both the actual findings of the inspection and his or her professional opinion on whether there is negligible chance of the introduction of hazards into the hatchery.

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## 7.3 SOPs for inspection of biosecurity in a poultry production farm

Hatching eggs to be used to produce day-old chicks or to be traded for use in hatcheries of other EAC Partner States originate from poultry production breeder farms. Though the eggs can be inspected and tested, safer and healthier trade is better achieved by ensuring good health of the parent stock and good biosecurity of the production farm, where the greatest value in risk reduction would be attained. The purpose of inspection of the biosecurity status of a poultry farm is to determine whether the introduction of a hazard of concern into the farm is possible and whether such a hazard may escape from the farm with the movement of hatching eggs, birds, people and fomites (OIE, 2017m).

Step 1: The inspector should inform the management of the farm of the imminent inspection giving the date and time of his or her arrival. This will enable the management to prepare for the event and to have the respondents ready for any interview.

Step 2: The inspector should prepare for the inspection by keeping off other poultry farms, poultry waste and poultry processing plants for a period equal to the incubation period of the main disease of concern before the date of the inspection and by preparing his or her tools, equipment, kits and personal protection gear.

Step 3: The inspector will first evaluate the locality, siting, layout and construction of the premises of the poultry farm to determine if:

- it is located
  - in a suitably isolated area
  - away from other poultry and livestock
  - away from wild bird concentration sites
  - away from a public road where poultry are transported
  - away from residential and commercial areas
- other animals could access the poultry houses and other buildings;
- the site has good drainage;
- the run-off and untreated waste water from the farm may end up discharging into a waterfowl habitat;
- there had been previous contamination of the site by chemicals, faeces, microbes, polluted water or other hazardous waste.

Step 4: The inspector will find out if the farm is surrounded by a security fence able to prevent entry of unwanted animals or people. The nature of the fence should be noted down.

Step 5: The inspector will then assess the entrance to the farm, whether there is a controlled gate and whether there is signage indicating that the farm has restricted entry. The inspector will find out:

- The procedure used by the management to authorise entry;
- Whether there is a log on all entry of persons, birds, eggs, feedstuff, equipment and machinery;
- Whether there is a functional shower system for personnel at the gate;
- Whether changing of clothing from street to farm clothes is provided for at the gate;
- Whether there is a disinfection footbath and a wheel bath or spray race for vehicles at the gate, and the disinfectant used in them and its concentration;
- Whether deliveries for feed are made outside the security fence or vehicles get into the farm. Delivery outside the fence is preferred for risk reduction;
- Whether vehicles are indeed cleaned and disinfected on entry and, for delivery vehicles, before they are loaded with eggs or poultry.

Step 6: The inspector will then inspect the poultry houses to find out if:

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- The construction material is smooth and impervious such that it can be easily cleaned and disinfected;
  - The area around the houses is paved with concrete or other impervious material to facilitate cleaning, disinfection and control of entry of vermin and rodents;
  - The poultry houses and the stores for feed, eggs, equipment and other materials are constructed in a manner to prevent entry of wild birds, vermin and rodents;
  - Written procedures are used for the control of wild birds, vermin and rodents;
  - The floors of the poultry houses are made of concrete or other impervious materials that allow effective cleaning and disinfection;
  - The compound is free of unwanted vegetation and debris that may harbour vermin, rodents and arthropods;
  - There are facilities for personal hygiene in the premises including changing rooms, showers, flush toilets and hand-washing and hand-drying amenities in the appropriate locations; separate areas for eating; protective clothing that can be cleaned effectively; and a process for ensuring that accumulation of contaminants is minimised.

- Step 7: The inspector will interview the farm management and make observations to establish:
- Whether the farm is upholding the single species and single production type principle and whether the farm is designed to uphold the all-in-all-out single age group principle, and if the answer is negative, whether each flock on the farm is being managed as a separate epidemiological unit.
  - Where an all-in-all-out system of management is not employed and the birds are maintained as separate entities in distinct epidemiological units, the inspector shall proceed to inspect the flocks, starting from the youngest to the oldest birds.
- Step 8: The inspector will interview the farm management and personnel and also examine the records to determine if the farm has and is implementing a written biosecurity plan and whether the personnel have been adequately trained on it in order to understand its implications for animal and human health and food safety.
- Step 9: The inspector will then assess the nature of the communication between the personnel in the production chain to find out if it is effective to mitigate the introduction and dissemination of infections agents.
- Step 10: The inspector should then assess the traceability system used at all the levels of the production chain. Good traceability should be the objective.
- Step 11: The inspector will then evaluate the record-keeping status of the farm. Records on the following elements are considered necessary:
- bird health
  - bird fertility and production
  - bird medication (type and date of medication and veterinarian who administered the medicine)
  - bird vaccination (vaccine types and batches, vaccination dates, manufacturer, manufacture dates and vaccinator),
  - bird mortality
  - surveillance for diseases of concern
  - facility cleaning and disinfection
- Step 12: The inspector will interview the management, examine the records and make observations to find out if:

- Poultry health management is done under the supervision of a veterinarian and whether the controlled antimicrobial veterinary medicines are used with the prescription and instruction of a veterinarian;
- Equipment is cleaned and sanitised before being taken into a poultry house;
- Drinking water is potable and its microbiological quality is monitored and the water delivery system is cleaned and disinfected between flocks and when the poultry house is empty;
- The birds used to stock a poultry house are obtained from reputable breeder flocks and hatcheries free from vertically transmitted infections agents. The inspector should obtain copies of any veterinary certificates to that effect;
- Feedstuff is derived from a heat treatment system with or without bactericidal or bacteriostatic additives.

Step 13: The inspector will then interview the management and also examine the records to establish if the following procedures are available and practised on the farm:

- Procedure for the management of feeds to prevent their access by wild birds and rodents;
- Procedure for ensuring litter is kept dry and in good condition;
- Procedure for the removal of dead birds and their safe and effective disposal;
- Procedure for the control and treatment of parasites;
- Procedure for catching and handling birds to ensure biosecurity;
- Procedure for the cleaning, disinfection and safe disposal of equipment;
- Procedure for cleaning nest box litter and liners;
- Procedure for the removal and safe disposal of faeces and litter or their treatment after the depopulation of a poultry house;
- Procedure for the collection, cleaning and sanitising of hatching eggs from the layer house and elimination of damaged eggs;
- Procedure for traceability of hatching eggs or their packaging;
- Procedure for the hygienic storage of hatching eggs;
- Procedure for handling by the personnel of flock suspected to be infected.

Step 14: [This step would be required if sampling and testing of birds are part of the inspection exercise, for example if the hatching eggs are being considered for export]. The inspector, assisted by bird catchers or handlers, will collect specimens from the birds and thereafter swab the surfaces and collect other materials likely to be contaminated, such as eggs, embryos, faecal droppings, fluff, dust and broken eggshells.

Step 16: The inspector will exit the facility following the same procedure as in the SOP for hatchery inspection.

Step 15: Back in the office, the inspector will prepare the report of the inspection, comprising the factual findings from the mission and his or her professional opinion on whether there is negligible risk of the introduction of hazards into the poultry farm, and if such introduction occurs whether there is negligible chance of dissemination of such hazards with hatching eggs and poultry.

## **7.4 SOPs for animal health inspection at the border post**

Border posts are international airports and harbours, approved land border crossing areas and inland container depots. A border post is a very important facility in the prevention of the incursion of hazards. Border inspection services are offered by several competent authorities, including customs and immigration departments and human and animal health authorities, which are required to cooperate closely. If performed effectively, border inspection is a useful procedure for protecting the rights of importing countries to safeguard the health of their animals and plants and the safety of the food delivered to their citizens. Animal health inspection services and border posts are governed by international law, which includes the International Health Regulations (2005) and international standards (OIE, 2017q; CAC, 2010; WHO, 2005; WTO, 1995).

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Border controls may unnecessarily delay trade, introduce unnecessary costs or generally hamper free trade. WTO has provided rules on trade facilitation that border control agencies, including animal health inspectors, should uphold (WTO, 2014). In EAC, the one-stop border post policy is being implemented at land crossing points for the purpose of easing and speeding up trade through reducing the barriers encountered in border control (EAC, 2016). The main outputs of the policy are closer collaboration, sharing of facilities and structures and joint inspection by the competent authorities of the exporting and importing states and transiting states.

Border animal health inspectors should familiarise themselves with the International Health Regulations (2005), international standards, WTO trade facilitation rules of trade and the EAC One-Stop Border Posts Act. Inspectors should also be aware of and recognise the objective of their role at the border post. The objective of the exportation point inspector is to ensure that his or her EAC Partner State exports only healthy animals and safe food as required by the importing EAC Partner State, while the objective of the importation point inspector is to prevent the entry of the hazard of concern into his or her EAC Partner State, as specified in the import requirements.

#### **7.4.1 SOPs for an exportation border post**

The stepwise SOPs for an exportation border post for cattle, day-old chicks, hatching eggs and milk are laid out below.

Step 1: The inspector will take his or her place in the central document office at the border post to peruse the documents to find out whether any that is relevant to his or her role has been lodged by the consignor of the commodity for export. The central document office may be a single window for lodging documents and could be a physical structure or a virtual or Internet-based site. The document would be an advance copy of a cargo manifest, a customs declaration or a sanitary document notifying of the imminent arrival of the consignment.

Step 2: If the relevant document is an advance notification, the inspector will take note and prepare to receive the consignment and to expedite its clearance process. If the original sanitary documents accompanying the consignment have been lodged, the inspector will affix on them the “VETERINARY AUTHORITY– STOP” stamp or its equivalent. That stamp may be physical or electronic and indicates that the veterinary services authority will inspect the documents and the cargo later on.

Step 3: The inspector will take his or her place in the central verification office and then inspect the sanitary documents to:

- Check if they are authentic, i.e. if they have been issued by the veterinary authorities of the importing and exporting EAC Partner States. He or she should be familiar with the certifying veterinarian’s by name and signature, but if in doubt will make an inquiry with his or her supervisor;
- Find out if both the import requirements cum import permit and the international veterinary certificate have been lodged;
- Peruse and familiarise himself or herself with the import requirements;
- Check that each of the import requirements has been attested to in the international veterinary certificate.

The inspector will note the findings from the document inspection for reference later.

Step 4: Working together with all the interested agencies, the inspector will visit the inspection area of the cargo and carry out the inspection.

- For live animals, the inspection area would be the quarantine area of the border post, the area of direct transit of an airport or another designated area. The interested agencies would include the customs department and the human health authority.

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- For milk and milk products or other food products, the inspection area would be the freight station, container depot or customs warehouse. The interested agencies would include the health authorities and the customs department.
  - The details of the inspection will be determined by the risk assessment as set out by the risk management committee of the border post. The possible levels of inspection are “direct release”, for cargo going under customs control to another border post for clearance; “normal verification”, where the inspection covers only the goods visible to the inspector when the vessel door is opened; “100% verification”, which is for high risk goods and requires that all the goods be removed and inspected; and “scanning”, which may be done for certain non-animal cargo.
  - The animal health inspector should participate in the activities of the risk management committee of the border post and advise them on the risk profile that would be ascribed to imminent consignments of animals or animal products.
  - The inspector will carry out the primary inspection of the animals while they are on the vessel. The animals may be offloaded subsequently for more inspection.
  - The inspector will observe the animals for any clinical signs of disease and for their welfare status; for hatching eggs the inspector will check for any sign of spoilage.
  - He or she will observe the vessel, containers and packaging for suitability and check whether the animal beddings are fit.
  - For large animals, the inspector will then take and record the vital parameters and may also collect samples to test in the laboratory at the border post as necessary.
  - The inspector will verify if the animals or hatching eggs are the ones described in the international veterinary certificate.
  - For milk and milk products, the inspector will check the status of the cold chain and any signs of spoilage or contamination of the milk and will also confirm the identification and traceability details of the cargo to see if they match the sanitary documents.

Step 5: When back in the central verification office, the inspector, after considering the findings from the document inspection and physical inspection of the cargo, will make a decision on the consignment. The following are the possible decisions:

- Where the all sanitary documents are in order, the animals are healthy and comfortable and the vessel and the beddings are still appropriate, the inspector will stamp the import permit and the international veterinary certificate with a physical or electronic “VETERINARY AUTHORITY – RELEASE” stamp next to the previously imprinted “VETERINARY AUTHORITY – STOP” stamp. The “RELEASE” legend will signify to the customs department that the veterinary authority has completed its inspection of the consignment and has approved its release.
- Where the sanitary documents are in error or the animals are adjudged as unhealthy or unfit to proceed with the journey or, for milk, if it is found unsafe, the second stamp will not be imprinted and the “VETERINARY AUTHORITY – STOP” legend will remain valid, indicating to the customs department that the veterinary authority has not yet completed the inspection or cleared the consignment for exportation.
- In the event of a decision to not authorise the clearance of the consignment, the inspector will issue instructions to the border post administrative authority for impounding the consignment at the detention or holding area of the border post pending the resolution of the matter. The documents may be corrected appropriately by the certifying veterinarians or the confirmation or ruling out of the disease may be done through further inspection.
- The non-cleared animal cargo may be returned to the exporting EAC Partner State, slaughtered or destroyed. Non-cleared hatching eggs or milk may be returned to the exporting EAC Partner State or destroyed and disposed of.

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Step 6: The inspector will then make a report of the inspection to the veterinary authority and will send the report daily, weekly or monthly according to the instructions of the veterinary authority.

#### **7.4.2 SOPs for an importation border post**

The stepwise SOPs for an importation border post for cattle, day-old chicks, hatching eggs and milk are laid out here.

Step 1: The inspector will take his or her place in the central documentation office, which could be a single window in a physical office or virtual office, and check for importation documents relevant to his or her role. These documents include the importation declaration form, the import requirements cum import permit and the international certificate or notifying copies of these documents, and the cargo manifest. The inspector will stamp the relevant original documents physically or electronically with the legend “VETERINARY AUTHORITY – STOP”.

Step 2: The inspector will take his or her place in the central verification office and inspect the sanitary documents –

- To check if the sanitary documents are authentic, i.e. if they have been issued by the veterinary authorities of the importing and exporting EAC Partner States;
- To find out if both the import requirements cum import permit and the international veterinary certificate have been lodged;
- To check that each of the import requirements has been attested to in the international veterinary certificate.

Step 3: Working together with all the interested agencies, the inspector will visit the inspection area of the cargo and carry out the inspection.

- The primary animal inspection will be done on the transporting vessel before any offloading of the animals.
- The inspector will then direct that the animal consignment be taken to the place of quarantine for offloading and more inspection.
- The inspector will observe the animals for any clinical signs of disease and for their welfare status.
- For large animals, the inspector will then take and record the vital parameters and may also collect samples to test in the laboratory at the border post as necessary.
- The inspector will verify if the animals are as described in the sanitary documents.
- For land crossing border points the entry journey does not end at the border, so the inspector will also inspect the vessel, containers and packaging for suitability and whether the animal beddings are still fit.
- Milk or other animal products will be inspected at the freight station, container depot or customs yard. The inspector will verify its identification and traceability from the details in the sanitary documents and also check the cold chain status and milk spoilage, expiry or contamination.

Step 4: When back in the central verification office and after considering the findings from the documents and the physical inspection, the inspector will make a decision on the proposed importation.

- If all the sanitary documents are in order and the animals are healthy and comfortable, or for milk, if it is safe, the inspector will physically or electronically stamp the legend “VETERINARY AUTHORITY – RELEASE” on the documents, signalling to the customs department that the veterinary authority has cleared the cargo for release into the country.

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- If the animals are suspected of being infected or the documents have errors the inspector will instruct the border post administrative authority to detain or hold the animals pending the resolution of the matter. For hatching eggs and milk, where spoilage or contamination is suspected, a decision to detain the consignment will be made. Meanwhile, the inspector will:
    - Immediately inform the carrier of the consignment and the importer of the detention of the consignment;
    - Carry out further examination and tests to confirm or rule out the suspected disease, or for milk, spoilage or contamination;
    - Assent to any request by the parties seeking a second test to verify the findings of the inspection and consider the results of the second test in the clearance of the consignment;
    - Cause the notification of the exporting country, giving the country an opportunity to confirm the findings of the inspection or to correct the sanitary documents;
  - Where the final decision is to not release the animals or milk, the animal consignment may be returned to the exporting EAC Partner State, slaughtered or destroyed, and in the case of milk the consignment may be returned to the exporting EAC Partner State for reconsigning, or destroyed and disposing of.

Step 5: The inspector will then make a report on the inspection to his or her veterinary authority and will send the report daily, weekly or monthly, according to the instructions of the veterinary authority.

### **7.4.3 SOPs for the inspection of transit goods and bonded cargo at border posts**

#### *SOPs for inspection of transit goods*

Frequently, animals and animal products are exported or imported through the territory of a third country. For example, Kenya may import day-old chicks from Burundi by road through the territory of Uganda. The importer is required to seek authorisation through the import requirements cum import permit of the destination Partner State and the transit requirements cum transit permit of the transit Partner State. The transit requirements are expected to set out the itinerary of the vessel transporting the consignment and the measures the veterinary authority considers adequate to prevent the escape and dispersal of excrement from the vessel while it is traversing the transit territory (OIE, 2017k). Subsequently, the veterinary authority of the exporting Partner State will carry out two separate inspections, one for the purpose of attesting to the compliance with the requirements of the import permit and the other one for the transit permit.

The stepwise SOPs for border post inspection of transit cattle, day-old chicks, hatching eggs and milk are provided below.

Step1: The veterinary authority at the border post of the transit Partner State will receive an advance notification of the proposed transit consignment. The animal health inspector there will then prepare to receive and inspect the consignment.

Step2: The inspector will take his or her place in the central documentation office, i.e. the physical or visual document lodging office, to check for documents relevant to live cattle, day-old chicks, hatching eggs or milk. He or she will affix the “VETERINARY AUTHORITY – STOP” stamp on the sanitary documents, comprising the import requirements, the transit requirements and the international veterinary certificates.

Step 3: The inspector will then take his or her place at the physical or visual central document verification office and inspect the documents to find out if:
 

- all the sanitary documents are made available in their original form, either as physical or electronic documents,
- the documents are authentic,

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- the import and transit requirements are correctly attested to in the international veterinary certificate.

Step 4: The inspector, working together with other interested agencies, will physically inspect the animals or the milk. For live cattle, he or she will take the vital parameters to verify their health and also check the state of their welfare. For day-old chicks or hatching eggs, he or she will examine a sample of the packages, noting any sign of sickness such as listlessness or unusual number of deaths, and for eggs, signs of breakage or decomposition. For milk, he or she will check the status of the cold chain, and signs of milk spoilage or contamination. For all consignments, the inspector will verify that the cargo is indeed as described in the sanitary documents.

NB: This step would be omitted where the importation requirements include the sealing of the vessel or container transporting the consignment and if that seal has been affixed and attested to on the international veterinary certificate.

Step 5: The inspector will thereafter make a decision on the consignment, based on the findings of the inspection of the documents and any inspection of the animals or milk.

- If all the sanitary documents are in order and the animals are healthy and their welfare status is good, or for a sealed vessel or container the seal is properly affixed and the vessel or container would not allow the escape of excrement en route, the inspector will stamp “VETERINARY AUTHORITY – RELEASE” on the documents.
- If the notification of the transit consignment had not been given to the transit veterinary authority, the animals are suspected to be unfit, or in the case of milk it is considered unsafe, any of the sanitary documents is erroneous, or the vessel or container is unfit, the inspector will require the detention of the consignment at the border post pending the resolution of the matter.
- The inspector will carry out further inspection including sampling and testing the animals during the period the consignment is detained.
- The exporting veterinary authority will be notified immediately of the detention of the consignment and invited to correct any erroneous document or verify the health status of the animals.
- If the errors in the sanitary documents are appropriately corrected, the disease ruled out or the faults in the vessel or container corrected, the inspector will stamp “VETERINARY AUTHORITY –RELEASE” on the documents in the same way as in the import SOPs.
- The “VETERINARY AUTHORITY – STOP” stamp on the sanitary documents will remain if the transiting of the consignment is rejected.
- If the final decision is to reject the transiting of the consignment, the consignment will be returned to the exporting country, or the animals will be slaughtered or destroyed and disposed of, or for milk, it will be destroyed and disposed of.

Step 6: The inspector will then prepare a report of the inspection, which may be sent to the veterinary authority daily, weekly or monthly according to the instructions of the authority.

### *Inspection of custom-bonded cargo*

When a consignment for importation or exportation of animals and animal products is transported under a bond issued by the customs department, inspection is not conducted at the importation or exportation border post but at the destination border post. The bond commits the importer to take responsibility for any outcome of the inspection once it is done.

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