

AniMark®



Livestock Global Assurance Program

LGAP 1004 Livestock assurance – Requirements for traceability systems used by Operators and Facilities

Version 2.0

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Foreword

The Livestock Global Assurance Program (LGAP) is an international certification program for Operators and Facilities that export, import, manage and process livestock.

The LGAP Standards underpin LGAP and include the following documents:

- LGAP 1000 *Livestock assurance - Fundamentals and vocabulary;*
- LGAP 1001 *Livestock assurance - Requirements for animal welfare and management;*
- LGAP 1002 *Livestock assurance - Requirements for the management system of Operators, Facilities and Traceability System Providers;*
- LGAP 1003 *Livestock assurance - Requirements for Operator chain of custody; and*
- LGAP 1004: *Livestock assurance - Requirements for traceability systems used by Operators and Facilities.*

The LGAP Standards have been prepared by the AniMark Standards Committee in accordance with internationally accepted standards development methodologies, including the opportunity for stakeholders and the public to provide comments.

The AniMark Board has adopted the LGAP Standards for application under LGAP.

Document control

The latest version of all normative documents can be downloaded from the AniMark website:
<https://www.animark.com.au/>

Language

Original documents are in English. LGAP documents will be translated into other languages and published on the AniMark website. Once published, these official LGAP documents will be the only documents that may be used for certification in that language. In case of discrepancy between translations, the English version shall prevail.

Changes to documents

Normative documents are identified with a unique document code, a version number and date.

The date in the version name indicates the date the document becomes operative.

The updates will be sent to all LGAP Approved Certification Bodies, Certified Operators, Certified Facilities and Traceability System Providers as official communication.

Introduction

This Standard is one in a suite of standards that support the operation of the Livestock Global Assurance Program (LGAP). Together they form a coherent set of standards for livestock assurance and assist organizations, of all types and sizes, to identify and fulfil their livestock assurance commitments.

LGAP is an international conformity assessment and certification program for Operators and Facilities that export, import, manage and process livestock, which are an important source of protein for the global community. How these livestock are treated through the supply chain is of increasing concern to the global community which is seeking assurances that certain expectations for animal welfare and management are met.

Tracing animals as they move through the supply chain is critical to assuring the appropriate treatment of livestock is maintained.

This Standard sets out requirements for systems which trace animals as they move between Certified Operators and Facilities.

The pillars of a traceability system are founded upon the identification of individual animals or homogenous groups of animals, the ability to track their movements, proper identification of premises, and recording of this information in appropriate registers¹.

This Standard is applicable to traceability systems used by Operators and Facilities and the requirements are structured to address the topics of the purpose and operation of the traceability system, resources required to effectively operate the traceability system including human resources, infrastructure and equipment, identification of traceability locations, parties and animals, movement recording, the use of appropriate registers and verification, monitoring and reporting.

A number of Annexes cover subjects such as competencies of personnel, key data elements which are required to be captured for various events and a methodology for conducting traceability tests.

Operators, Facilities and Traceability System Providers that fulfil the relevant requirements of the LGAP Standards may seek certification in accordance with the LGAP Certification Rules.

¹ Vallet B (2008). *Animal identification and product traceability from the farm to the fork must be progressively implemented worldwide*. World Organisation for Animal Health.

1 Scope

This Standard contains requirements for traceability systems used under LGAP to trace livestock that are intended for slaughter for food supply. Slaughter may incorporate cultural or religious observances. This Standard can be applied in any jurisdiction.

The requirements cover:

- a) purpose of the system;
- b) operation of the system;
- c) resources;
- d) location and party identification;
- e) animal identification;
- f) movement recording;
- g) registers; and
- h) verification, monitoring and reporting.

This Standard is applicable to Traceability System Providers that may be:

- a) Operators who provide a traceability system for their own use or the use of downstream Operators and Facilities in their supply chain;
- b) Facilities who provide a traceability system for their own use; or
- c) Third parties who provide traceability systems to Operators or Facilities for their individual use or for use by all Operators and Facilities within an entire supply chain.

Traceability System Providers may provide the system or the system along with traceability services.

The application of this Standard applies to traceability systems which are used to manage:

- a) internal traceability; and
- b) external traceability.

2 Normative references

- ISO 8601 Date and time *Representations for information interchange – Part 1: Basic rules*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in LGAP 1000 *Livestock assurance - Fundamentals and vocabulary* apply.

4 Purpose of the system

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

4.1 The **primary purpose** of the traceability system shall be to monitor and track the movement of livestock through LGAP certified Facilities by:

- a) tracking movements of individually identified animal or collectively identified groups of animals:
 - i. into and out of a traceability location; and
 - ii. as they change physical custody between traceability parties;
- b) enabling, upon reasonable request of a traceability party or Program participant, confirmation of an animal or group of animals:
 1. current presence at a traceability location; or
- c) last critical movement event; enabling an animal or group of animals to be traced, within 10 days of initiating the tracing effort, from a traceability location to the:
 - i. traceability location where the animal or group of animals:
 1. came from; and
 2. was sent to; and
 - ii. traceability party at 1. and 2. who had physical custody;
- d) securely capturing and storing traceability data and supporting evidence that demonstrates the validity and reliability of the traceability system; and
- e) ensuring traceability data and supporting evidence can be securely exchanged between different traceability systems such that an animal or group of animals can be traced and located through all traceability locations the animal or group of animals has moved between.

4.2 Where the traceability system serves another purpose, that purpose shall not interfere with the efficacy of the primary purpose.

EXAMPLES of other purposes can include:

- financial management or accounting;
- facility capacity management;
- animal health monitoring; and
- supply chain logistics and management.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT PROVIDE SUPPLY CHAIN TRACEABILITY SYSTEMS

4.3 The **primary purpose** of the traceability system shall also:

- a) enable an animal or group of animals to be:
 - i. where relevant, connected to a specified supply chain;
 - ii. located at a traceability location; and
 - iii. within 10 days of initiating the tracing effort:
 - 1. traced through every traceability location that animal or group of animals has moved.

5 Operation of the system

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

5.1 The Traceability System Provider shall ensure:

- a) the traceability system is not owned, operated or controlled by an entity which:
 - i. has a direct financial interest in an Approved Certification Body; or
 - ii. acts as an Approved Auditor;
- b) terms of use are specified for users of the traceability system and include arrangements for:
 - i. ownership of the:
 1. traceability system intellectual property;
 2. traceability data and supporting evidence captured, collected and stored; and
 3. infrastructure or equipment provided to users by the Traceability System Provider to enable the effective operation of the traceability system;
 - ii. licencing of intellectual property and information to users;
 - iii. arrangements for how information is:
 1. collected;
 2. captured;
 3. transmitted;
 4. stored;
 5. used;
 6. shared;
 7. reported;
 8. disclosed;
 9. accessed;
 10. amended; and
 11. secured;

- c) specifications in relation to any infrastructure or equipment required by users to effectively operate the traceability system;
- d) termination of users and provision for retention of traceability data and supporting evidence and access after termination;
- e) warranties and liability limitations; and
- f) dispute procedures and governing law;
- g) access to the traceability system, including different parts of the traceability system, is appropriately defined for different users or user groups including users who are Program participants;

NOTE Program participants are prescribed in the LGAP Certification Rules.

- h) the traceability system is secure;
- i) there is no hinderance or disruption to access to traceability data; and
- j) the terms of use and usage of the traceability system enables all users who are Program participants to fulfil their:
 - i. obligations under LGAP; and
 - ii. compliance requirements.

NOTE Obligations are prescribed by the LGAP Certification Requirements.

5.2 The Traceability System Provider shall ensure its traceability system does not prevent its Operator or Facility users from connecting information from different traceability systems together, in particular connecting different:

- a) identification methods for traceability locations, parties and animals;
- b) traceability data for events and key data elements;
- c) monitoring data; and
- d) supporting evidence.

NOTE Operators and Facilities can have more than one traceability system in operation. To meet their individual LGAP Certification Requirements each Operator or Facility may need to be able to connect information from these different traceability systems. The intention is not system integration but rather that the traceability system should not prevent an Operator or Facility from making these connections.

6 Resources

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

6.1 The Traceability System Provider shall:

- a) determine the number of personnel necessary to fulfil the requirements of this Standard; and
- b) identify and have access to such personnel.

NOTE Determination of the number of personnel is influenced by:

- the nature of the traceability system;
- the inherent risk associated with the environment the traceability system operates in;
- the users of the traceability system;
- the services provided with the traceability system.

6.2 The Traceability System Provider shall establish processes for the correct operation of the traceability system by all personnel and users.

6.3 The Traceability System Provider shall:

- a) demonstrate that its personnel have at least the relevant competencies contained in Annex A;
- b) make available training and resources to its Operator and Facility users to enable them to demonstrate they have, at a minimum, the relevant competencies contained in Annex A of LGAP 1001 *Livestock assurance – Requirements for animal welfare and management*;
- c) identify and allocate internal responsibilities for fulfilling requirements, including specific personnel with responsibility for:
 - i. the day-to-day application of this Standard;
 - ii. performing processes to ensure the traceability system performs as intended;
 - iii. conducting traceability tests; and
 - iv. communicating and reporting internally and to users any issues with the traceability system which may impact a Facility or Operator user's ability to continue to fulfil their LGAP Certification Requirements; and
- d) establish processes to support the fulfilment of a), b) and c).

- 6.4** The Traceability System Provider shall establish processes for the infrastructure and equipment required for the effective operation of the traceability system, including optimal:
- a) placement and installation;
 - b) handling and usage;
 - c) contingency arrangements in the event of infrastructure or equipment failure; and
 - d) maintenance.
- 6.5** The Traceability System Provider shall maintain documented information to support the fulfilment of 6.1 through to 6.4.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT ALSO PROVIDE TRACEABILITY SERVICES

- 6.6** The Traceability System Provider shall:
- a) demonstrate that its personnel have at least the relevant competencies contained in Annex B;
 - b) identify and allocate responsibilities for fulfilling requirements, including specific personnel with responsibility for:
 - i. the identification of animals;
 - ii. capturing traceability data;
 - iii. collecting and storing traceability data and supporting evidence;
 - iv. providing traceability data to traceability parties;
 - v. undertaking reconciliations;
 - vi. performing processes to ensure the traceability data and supporting evidence are valid, reliable and accurate;
 - vii. monitoring processes and incidents;
 - viii. conducting analyses; and
 - ix. reporting the outcomes of monitoring processes, incidents, traceability tests and analysis to users and other Program participants as relevant;

NOTE The performance of b) is expected to be based on the processes established in different parts of this Standard, including:

- animal identification: section 8;
- capturing, collecting and storing traceability data: section 9 and 10; and
- verification, monitoring, analysis and reporting activities: section 11.

- c) ensure any infrastructure and equipment required for the efficient operation of the traceability system are:
 - i. physically present where required;
 - ii. in good repair and effective working order;
 - iii. maintained in accordance with a maintenance schedule with associated documented information; and
 - iv. used in accordance with processes, documented information and instructions;
- d) ensure any back up infrastructure and equipment that are required in the event of a failure are readily available when needed; and
- e) maintain processes and documented information to support the fulfilment of a) through to d).

7 Location and party identification

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

7.1 The traceability system shall have a means of:

- a) individually, uniquely and accurately identifying the:
 - i. traceability location where animals are or will be physically held or will transit;
 - ii. traceability party who, while the animals are at the traceability location has physical custody of those animals; and
- b) connecting the identification relied upon in a) to the:
 - i. traceability location's name;
 - ii. traceability party's name;
 - iii. type of:
 1. traceability location; and
 2. traceability party; and
 - iv. traceability location and party's:
 1. physical address;
 2. GPS location; and
 3. LGAP Certification Number.

8 Animal identification

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

- 8.1** The traceability system shall have a method of identifying animals individually or collectively as a group that is consistent with each Operator or Facility user's level of LGAP certification.

NOTE 1 Identification methods permissible for Operators or Facilities under LGAP based on certification level are provided in Annex B, LGAP 1001 *Livestock assurance – Requirements for animal welfare and management*.

NOTE 2 The method used can be that established by the Traceability System Provider, Operator or Facility.

- 8.2** The method of identifying animals or groups of animals shall ensure all animals can be accurately connected to the:
- a) Operator or Facility's correct LGAP certification level;
 - b) correct traceability party;
 - c) correct traceability location;
 - d) relevant critical movement event; and
 - e) where relevant, the specified supply chain.

NOTE Operators or Facilities may have more than one level of certification under LGAP.

- 8.3** The method of identification shall not:
1. be toxic to the animal; or
 2. present a food safety risk.

- 8.4** Where the Traceability System Provider provides identification for use with the traceability system and the method of identification relies upon individual unique identifiers, then:
- a) production and distribution of the identifiers shall be controlled;
 - b) identifiers shall ensure Operators and Facilities are able to fulfil relevant animal identification and movement requirements in sections 6 and 8, and Annex B in *LGAP 1001 Livestock assurance – Requirements for animal welfare and management*;
 - c) the identifiers shall be able to be secured to an animal such that:
 - i. from the time of application, they remain associated with the correct animal for that animal's lifetime; and
 - ii. when removed, it shall not be possible to reapply the same identifier securely without visible evidence of tampering;
 - d) processes shall be established to ensure that, once identifiers are removed from an animal, Operator and Facility users:
 - i. do not reuse identifiers; and
 - ii. return used identifiers to the Traceability System Provider or legal owner of the identifier; or
 - iii. destroy used identifiers; and
 - e) identifiers that are returned to the Traceability System Provider:
 - i. shall not be reused; and
 - ii. can be:
 - 1. returned to the legal owner of the identifier; or
 - 2. destroyed;
 - f) documented information shall be maintained to demonstrate a and e) ii.

NOTE The method of destruction shall render the identifier inoperable and unable to be reused.

- 8.5** The Traceability System Provider shall establish processes for:
- a) keeping unused identifiers secure at all times;
 - b) checking animals for identification during:
 - i. critical movement events; and
 - ii. their time within a traceability location; and
 - c) if animals are found to be missing identification or require replacement identification:
 - i. reapplying identification at the first opportunity;
 - ii. recording the application of the replacement identification, with at least the following collected and stored on the register:
 - 1. date of use;
 - 2. number of identifiers used;
 - 3. identifier's identification number; and
 - 4. a description of the livestock that identifiers are applied to;
 - iii. ensuring the record of application is collected and stored on the register;
 - iv. notifying the traceability parties at the traceability location of the replacement; and
 - v. where identification documentation is used, recording the application of the replacement identification and any other changes on identification documentation; and
 - d) returning used identifiers to the Traceability System Provider or legal owner of the identifier; or
 - e) destroying used identifiers.

NOTE 1 Missing identification can include physically absent, damaged or ineffective.

NOTE 2 The method of destruction shall render the identifier inoperable and unable to be reused.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT ALSO PROVIDE TRACEABILITY SERVICES

- 8.6** Animals shall be checked for identification based on the processes established at 8.5 during:
- a) critical movement events; and
 - b) their time within a traceability location.

- 8.7** If animals are found to be missing identification or require replacement identification, the Traceability System Provider shall, based on the processes established at 8.5:
- a) reapply identification at the first opportunity;
 - b) record the application of the replacement identification;
 - c) ensure the record of application is collected and stored on the register;
 - d) notify the traceability location and traceability parties of the replacement; and
 - e) where identification documentation is used, record the application of the replacement identification and any other changes on the identification documentation.

NOTE Missing identification can include physically absent, damaged or ineffective.

8.8 Where identifiers are used:

- a) unused identifiers shall be kept in a secure location at all times;
- b) their use shall be recorded, with at least the following collected and stored on the register:
 - i. date of use;
 - ii. number of identifiers used;
 - iii. identifier's identification number; and
 - iv. a description of the livestock that identifiers are applied to, including if they were used as a replacement for existing identifiers;
- c) they shall only be removed from live animals:
 - i. in response to a health and welfare issue;
 - ii. because the identifier is at risk of becoming detached; or
 - iii. where the identifier is non-functioning; and
- d) found or removed used identifiers shall:
 - i. be recorded, with at least the following collected and stored on the register:
 - 1. the identifier's identification number;
 - 2. date found or removal; and
 - 3. reason for removal;
 - ii. not be reused; and
 - iii. be returned to the Traceability System Provider or legal owner of the identifier; or
 - iv. be destroyed.

NOTE The method of destruction shall render the identifier inoperable and unable to be reused.

9 Management of animal movement

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

- 9.1** The traceability system shall have a method for accurately capturing the movement of animals or groups of animals between traceability locations and parties so that from any traceability location, the following can be traced:
- a) the traceability location where the animals:
 - i. came from; and
 - ii. were sent to; and
 - b) the traceability party at i) and ii) who had physical custody; and
 - c) where necessary, the specified supply chain.
- 9.2** The traceability system shall, at a minimum, enable the capture of accurate traceability data in relation to:
- a) the following types of events:
 - i. the master level event;
 - ii. transaction events between traceability parties that includes at least a change of physical custody;
 - iii. critical movement events in relation to animals or groups of animals:
 - 1. entering a traceability location; and
 - 2. exiting a traceability location; and
 - b) key data elements relevant to the event consisting of:
 - i. information identified in Annex C; and

- ii. details relating to the type of event that occurred using a method:
 1. applied consistently; and
 2. able to be understood by users and auditors.

EXAMPLES of methods that can be used to provide detail for the type of event can include using a status as provided in Table 1:

Table 1: Examples of methods that can be used to provide detail relating to the type of event

EXAMPLE Status	Detail relating to the type of event
Type of event: Master level event	
AV	Arrival
Type of event: Transaction event	
ID	Change of identifier or method of identification
PC	Change of traceability party with physical custody
Type of event: Critical movement event	
DE	Death – Emergency destruction
DN	Death – Natural causes
DS	Death – Slaughter
ET	Entering the traceability location
EX	Exiting the traceability location – Transfer
EB	Exiting the traceability location – Breeding
TL	Theft or loss

NOTE Table 1 is provided as an example only and does not define the different types of events nor imply the status must be used.

9.3 Traceability data shall be able to be captured:

- a) as the event occurs; or
- b) immediately after.

9.4 Where the traceability system is to be used at sites where livestock from the same species:

- a) come from specified supply chains that are certified under LGAP and non-LGAP certified sources; or
- b) are from specified supply chains that are certified under LGAP for which different levels of certification are being sought or applies;

the Traceability System Provider shall establish processes to identify, segregate and manage the different groups of livestock in a way that will allow the relevant LGAP requirements to be applied to the correct group of livestock.

EXAMPLE An abattoir may be processing local cattle in accordance with Level 1 certification requirements and cattle from a specified source of supply (e.g. Australia) in accordance with Level 2 certification requirements. In these situations, the abattoir demonstrates it identifies, segregates and manages the two groups of livestock to ensure they are not mixed, and that the correct certification requirements are fulfilled for each group.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT ALSO PROVIDE TRACEABILITY SERVICES

9.5 The Traceability System Provider shall:

- a) capture, and collect and store on the register accurate traceability data based on the processes established at 9.2 and 9.3; and
- b) identify, segregate and manage the different groups of livestock based on the processes established at 9.4.

10 Registers

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

- 10.1** The traceability system shall have a register that enables accurate traceability data captured from events to be collected and stored such that it can show:
- a) the current traceability location of the animal or group of animals;
 - b) the traceability location where the animal or group of animals:
 - i. came from; and
 - ii. were sent to; and
 - c) the traceability party at i) and ii) who had physical custody.
- 10.2** The traceability system shall ensure traceability data is able to be collected and stored on the register:
- a) within:
 - i. a timeframe that ensures the primary purpose 4.1 and 4.3 can be achieved; or
 - ii. the timeframe specified by traceability parties, where less than that specified in i);
 - b) using effective methods to facilitate data transmission in a secure manner; and
 - c) in a format:
 - i. compatible with the receiving traceability party's traceability system; and
 - ii. that is secure.

NOTE This requirement does not exclude traceability data being amended or corrected by authorised parties where legitimately required.

10.3 The traceability system shall enable traceability data to be stored on the register when received from traceability parties.

10.4 The traceability system shall ensure traceability data required by traceability parties to meet their obligations under LGAP and any compliance requirements is able to be provided to traceability parties:

a) within:

- i. a timeframe that ensures the primary purpose at 4.1 and 4.3 can be achieved;
or
- ii. the timeframe specified by traceability parties, where less than that specified in i);

b) using effective methods to facilitate data transmission in a secure manner; and

c) in a format:

- i. compatible with the receiving traceability party's traceability system; and
- ii. that is secure.

NOTE This requirement does not exclude traceability data being amended or corrected by authorised parties where legitimately required.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT ALSO PROVIDE TRACEABILITY SERVICES

- 10.5** Traceability data shall be collected and stored on the register:
- a) within a timeframe that ensures the primary purpose can be achieved; and
 - b) using the methods and formats established at 10.2.

- 10.6** As soon as it is received, traceability data from traceability parties shall be:
- a) checked to ensure it is valid, reliable and accurate; and
 - b) stored on the register.

NOTE Processes to check the validity, reliability and accuracy of the traceability data are addressed in section 11.

- 10.7** Traceability data required by traceability parties to meet their obligations under LGAP and any compliance requirements shall be provided to traceability parties:
- a) within a timeframe that ensures the primary purpose can be achieved; and
 - b) using the methods and formats established at 10.4.

- 10.8** Where anomalies in the reliability and accuracy of the traceability data are identified:
- a) the relevant traceability parties shall be immediately notified; and
 - b) action shall be taken to:
 - i. identify the cause of the anomaly;
 - ii. where legitimately required, correct the traceability data so it is reliable and accurate;
 - iii. remedy the cause of the anomaly such that it does not occur again; and
 - iv. keep relevant traceability parties updated on action.

NOTE This requirement only relates to traceability data being amended or corrected by authorised parties where legitimately required.

11 Verification, monitoring and reporting

GENERAL REQUIREMENTS FOR ALL TRACEABILITY SYSTEM PROVIDERS

- 11.1** The Traceability System Provider shall establish processes to verify the validity, reliability and accuracy of the traceability data on the register by checking it is:
- a) complete and includes all key data elements;
 - b) an accurate representation of:
 - i. the animal or group of animals:
 - 1. the traceability data is supposed to represent; and
 - 2. their current and historical traceability locations;
 - ii. the traceability party who, at the current and historical traceability locations, had physical custody;
 - c) precise and clear;
 - d) supported by evidence:
 - i. demonstrating the validity, reliability and accuracy of the traceability data; and
 - ii. as may be prescribed by the Program Owner; and
 - e) able to be accessed and audited by:
 - i. internal auditors;
 - ii. Approved Auditors;
 - iii. traceability parties; and
 - iv. the Program Owner or its agents.

11.2 The Traceability System Provider shall establish processes to ensure supporting evidence:

a) consists of:

- i. documented information; and
- ii. where group identification is used, identification documentation specifying at least the:
 1. number of animals in the group;
 2. species;
 3. date of introduction into the current traceability location;
 4. current traceability location;
 5. destination traceability location;
 6. traceability party who has physical custody at the current traceability location;
 7. type of physical group identifier, where used; and

b) can include visual information comprising:

- i. static visual imagery; and
- ii. video surveillance.

11.3 The Traceability System Provider shall establish processes to ensure visual information used as supporting evidence retains any original metadata created when the visual information was captured for verification purposes if necessary.

11.4 Where supporting evidence relies on static visual imagery, the Traceability System Provider shall establish processes to ensure such imagery is:

- a) captured:
 - i. as the event occurs; or
 - ii. immediately afterwards; and
 - iii. using equipment that produces images able to be clearly viewed at a minimum display resolution of 1024 pixels wide by 768 pixels high.
- b) framed, focused and with sufficient lighting to ensure the:
 - i. facial and physical characteristics of each animal can be clearly seen; and
 - ii. legibility of any numbering or coding relied upon for identifiers;

EXAMPLES of images which may not be captured or framed appropriately or are not clear include those that are blurry, obscured, incomplete or captured in an area with insufficient lighting or using unsuitable equipment or with an unsuitable pixel dimension.

- c) marked with the:
 - i. GPS location where the static visual image was captured; and
 - ii. date and time the event took place using a format consistent with ISO 8601;
 - d) connected with the:
 - i. identification of the traceability location where the static visual image was captured, including:
 - 1. traceability location name;
 - 2. physical address;
 - 3. GPS location;
 - 4. LGAP Certification Number; and
- NOTE The LGAP Certification Number is the number recorded on the AniMark IT Conformance System for the Operator or Facility registered to that traceability location.
- 5. type of traceability location; and
 - ii. GPS location:
 - 1. marked on the static visual image; and
 - 2. related to the LGAP Certification Number of the traceability location where the static visual image was captured; and
- e) transmitted in a manner which preserves aspects from a) to c).

NOTE 1 Imagery may be one image or a series of images.

11.5 Where supporting evidence relies on video surveillance as evidence then the Traceability System Provider shall establish processes to ensure the video surveillance footage is:

- a) captured as the event occurs;
- b) framed and focused with sufficient lighting to clearly see:
 - i. each animal; and
 - ii. the area and activity around the animal;

EXAMPLES of images which may not be captured or framed appropriately or are not clear include those that are blurry, obscured, incomplete or captured in an area with insufficient lighting or using unsuitable equipment.

- c) marked with the:
 - i. GPS location where the video surveillance footage was captured; and
 - ii. date and time the event took place using the format specified in ISO 8601;

NOTE The marking may be on the video surveillance footage itself or in the meta data.

- d) connected with the:
 - i. identification of the traceability location where the video surveillance footage was captured, including:
 - 1. traceability location name;
 - 2. physical address;
 - 3. GPS location;
 - 4. LGAP Certification Number; and
- NOTE The LGAP Certification Number is the number recorded on the AniMark IT Conformance System for the Operator or Facility registered to that traceability location.
- 5. type of traceability location; and
 - ii. GPS location:
 - 1. marked on the video surveillance footage; and
 - 2. related to the LGAP Certification Number of the traceability location where the video surveillance footage was captured;
 - e) secure; and
 - f) reviewed without delay after each event to ascertain that key data elements for critical movement events can be connected to the video surveillance footage.

11.6 Where GPS is unavailable to be used to fulfil 11.4 and 11.5 c) i. and d) ii.:

- a) a suitable alternative to GPS shall be used; and
- b) the alternative shall encompass a reference point unique to that traceability location.

NOTE A suitable alternative to GPS can include maintaining static visual imagery of the traceability location as a reference point that can be used to compare with the image captured.

- 11.7** The Traceability System Provider shall establish processes for:
- a) performing reconciliations between:
 - i. the traceability location of an animal or group of animals;
 - ii. traceability data for that animal or group of animals; and
 - iii. supporting evidence; and
 - b) maintaining documented information to support the occurrence and outcomes of reconciliations.
- 11.8** The Traceability System Provider shall establish processes to monitor the occurrence of the following incidents and maintain monitoring data:
- a) the animal or group of animals traceability location is not:
 - i. known; or
 - ii. included in the scope of certification for an Operator or Facility;
 - b) the animal or group of animals has been assigned to the incorrect:
 - i. traceability party for physical custody; or
 - ii. specified supply chain, where relevant;
 - c) traceability data has been provided to or received by traceability parties inconsistent with the requirements of 10.4;
 - d) evidence exists which questions the validity, reliability or accuracy of the:
 - i. traceability data; or
 - ii. supporting evidence;
 - e) when:
 - i. animals enter a traceability location that is not certified under LGAP to the appropriate level;
 - ii. the number of livestock sent to a traceability location exceeds that traceability location's capacity;
 - iii. there is no connection between the GPS location and the:
 - 1. identification of the traceability location;
 - 2. critical movement event;
 - 3. LGAP Certification Number; and
 - 4. supporting evidence;
 - iv. reconciliations of livestock numbers do not equal 100%; and

- v. anomalies in the traceability data or supporting evidence are identified and occur more than once in relation to the same:
 - 1. animal or group of animals;
 - 2. traceability location;
 - 3. traceability party; or
 - 4. type of anomaly.

11.9 The Traceability System Provider shall establish processes to:

- a) monitor the:
 - i. number of:
 - 1. identifiers that are lost or replaced;
 - 2. livestock that become breeding livestock;
 - 3. livestock losses or mortalities (other than due to slaughter); and
 - ii. time taken between livestock exiting the consigning traceability location and entering the destination traceability location; and
- b) maintain monitoring data that demonstrates the occurrence and outcomes of a).

11.10 The Traceability System Provider shall:

- a) establish processes for:
 - i. conducting traceability tests in accordance with Annex D; and
 - ii. maintaining documented information which demonstrate the outcomes of the traceability tests;
- b) perform traceability tests at prescribed timeframes; and
- c) maintain documented information which show the outcomes of the traceability tests.

NOTE Timeframes are prescribed in the LGAP Certification Rules.

11.11 The Traceability System Provider shall immediately:

- a) raise a complaint with the Program Owner should evidence exist to indicate a nonfulfillment by an Operator or Facility user of any of the LGAP Certification Requirements; and
- b) provide all traceability data, supporting evidence and any analysis undertaken to the Program Owner in support of a).

- 11.12** The Traceability System Provider shall establish processes to ensure traceability data, supporting evidence and monitoring data are:
- a) retained for the minimum period required by compliance requirements or for no less than two years from the date of creation, whichever is the greater;
 - b) secure;
 - c) readily accessible to authorised parties; and
 - d) managed in a manner which fulfils LGAP 1002 - *Livestock assurance - Requirements for the management system of Operators, Facilities and Traceability System Providers*.

- 11.13** The Traceability System Provider shall establish processes to ensure the traceability system fulfils all compliance requirements relevant to traceability data and supporting evidence applicable to the jurisdiction where the:
- a) traceability system is:
 - i. legally owned;
 - ii. operated; and
 - iii. used; and
 - b) traceability data and supporting evidence is:
 - i. captured in;
 - ii. collected from;
 - iii. stored in;
 - iv. transmitted through; and
 - v. used.

ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS THAT ALSO PROVIDE TRACEABILITY SERVICES

11.14 The Traceability System Provider shall:

- a) verify the validity, reliability and accuracy of the traceability data on the register using the process established at 11.1;
- b) ensure supporting evidence is maintained based on the process established at 11.2 and, where relevant, 11.3, 11.4 and 11.5;
- c) perform reconciliations following the processes established at 11.7 and maintain documented information to demonstrate the outcome of the reconciliations;
- d) monitor the occurrence of incidents following the process established at 11.8 and maintain monitoring data;
- e) monitor and maintain monitoring data following the processes established at 11.9;
- f) conduct traceability tests in accordance with the processes established at 11.10 and maintain documented information to demonstrate the outcome of the traceability tests; and
- g) retain, secure and manage traceability data, supporting evidence, documented information and monitoring data based on the process established at 11.12.

11.15 Where monitoring identifies the occurrence of the incidents in 11.8 then the Traceability System Provider shall:

- a) take action immediately to:
 - i. remedy the situation;
 - ii. deal with the consequences; and
 - iii. inform relevant traceability parties about the occurrence of the incident;
- b) review the incident to determine:
 - i. the cause of the incident; and
 - ii. if other incidents could potentially occur;
- c) if necessary, change the traceability system or process to ensure the cause of the incident cannot reoccur; and
- d) at the completion of the review, inform relevant traceability parties about the:
 - i. cause of the incident;
 - ii. action taken to remedy the incident;
 - iii. outcomes of the review of the incident;
 - iv. timeframe in which the traceability system shall be changed or has been changed, where changes are determined to be necessary; and
 - v. confirmed changes to the traceability system when such have been implemented;

NOTE Timeframes are prescribed in the LGAP Certification Rules.

11.16 At prescribed timeframes, the Traceability System Provider shall undertake analysis of the:

- a) traceability data;
- b) supporting evidence;
- c) documented information; and
- d) monitoring data.

NOTE Timeframes are prescribed in the LGAP Certification Rules.

11.17 The Traceability System Provider shall review the outcome of the analysis conducted at 11.16 to determine if there are any irregularities or anomalies:

- a) in relation to:
 - i. the number of:
 - 1. identifiers which are lost or replaced;
 - 2. livestock that become breeding livestock;
 - 3. livestock losses or mortalities (other than due to slaughter);
 - ii. time taken between livestock exiting the consigning traceability location and entering the destination traceability location is greater than the expected or normal journey time;.
 - iii. livestock being sent to a traceability location when it exceeds that traceability locations capacity.
- b) the traceability data or supporting evidence that occur more than once in relation to the same:
 - i. animal or group of animals;
 - ii. traceability location;
 - iii. traceability party; or
 - iv. type of anomaly.

11.18 Where any irregularities or anomalies in 11.17 are identified, the Traceability System Provider shall immediately:

- a) review the irregularities or anomalies to determine:
 - i. the cause of the irregularity or anomaly; and
 - ii. if the irregularity or anomaly could potentially reoccur;
- b) if necessary, change the traceability system or relevant processes to ensure the cause of the irregularity or anomaly cannot reoccur;
- c) report the irregularities or anomalies to traceability parties and the Program Owner; and
- d) upon request provide all traceability data, supporting evidence, monitoring data and the analysis undertaken to traceability parties and the Program Owner.

FURTHER ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS WITH SUPPLY CHAIN SYSTEMS

11.19 The Traceability System Provider shall establish a process for reconciling all movements of animals or groups of animals between traceability locations and parties throughout the supply chain.

FURTHER ADDITIONAL REQUIREMENTS FOR TRACEABILITY SYSTEM PROVIDERS WITH SUPPLY CHAIN SYSTEMS THAT ALSO PROVIDE TRACEABILITY SERVICES

- 11.20** a) The Traceability System Provider shall perform reconciliations:
- i. following the processes established in 11.19; and
 - ii. at prescribed timeframes.

NOTE Timeframes are prescribed in the LGAP Certification Rules.

12 Bibliography

The following documents provide further information in relation to traceability system design and operation:

- *Animal production and health guidelines - development of integrated multipurpose animal recording systems*. Food and Agriculture Organization of the United Nations.
- *ICAR Recording Guidelines*. International Committee for Animal Recording (ICAR)
- ISO 11784:1996 *Radio frequency identification of animals — Code structure*
- ISO 11785:1996 *Radio frequency identification of animals — Technical concept*
- ISO 24631-1:2017 *Radiofrequency identification of animals — Part 1: Evaluation of conformance of RFID transponders with ISO 11784 and ISO 11785 (including granting and use of a manufacturer code)*
- ISO 24631-2:2017 *Radiofrequency identification of animals — Part 2: Evaluation of conformance of RFID transceivers with ISO 11784 and ISO 11785*
- ISO 24631-3:2017 *Radiofrequency identification of animals — Part 3: Evaluation of performance of RFID transponders conforming with ISO 11784 and ISO 11785*
- ISO 24631-4:2017 *Radiofrequency identification of animals — Part 4: Evaluation of performance of RFID transceivers conforming with ISO 11784 and ISO 11785*
- ISO 24631-5:2014 *Radiofrequency identification of animals — Part 5: Procedure for testing the capability of RFID transceivers of reading ISO 11784 and ISO 11785 transponders*
- ISO 24631-6:2011 *Radiofrequency identification of animals — Part 6: Representation of animal identification information (visual display/data transfer)*
- ISO 24631-7:2012 *Radiofrequency identification of animals — Part 7: Synchronization of ISO 11785 identification systems*

Annex A Personnel competencies for all Traceability System Providers

(Normative)

Traceability System Providers shall demonstrate that its personnel have the following competencies:

Competencies (knowledge and skills)	Traceability System Provider personnel involved in:				
	Developing the system	System testing and validation	Setting up the system (where relevant)	Providing training and support (where relevant)	Top management
Knowledge					
a) appropriate system development protocols, techniques and programming languages	✓				
b) understanding of the latest development trends and their effect on a commercial environment	✓				✓
c) appropriate system testing and validation protocols, methodologies and techniques including user acceptance testing, security testing, recover testing and traceability testing		✓	✓		
d) appropriate methods, techniques and processes for identifying livestock	✓		✓	✓	
e) methods, techniques and processes for controlling, segregating and sorting identified livestock to ensure traceability is maintained	✓		✓	✓	
f) components and functions of equipment and materials used to identify and segregate livestock	✓		✓	✓	
g) methods, techniques and processes for capturing traceability data and supporting evidence	✓		✓	✓	✓
h) components and functions of infrastructure and equipment used to capture traceability data and supporting evidence	✓		✓	✓	
i) correct operation of infrastructure and equipment			✓	✓	
j) backup processes and responding to emergency situations	✓	✓	✓	✓	

Competencies (knowledge and skills)	Traceability System Provider personnel involved in:				
	Developing the system	System testing and validation	Setting up the system (where relevant)	Providing training and support (where relevant)	Top management
Knowledge					
k) relevant processes and documented information associated with tasks undertaken	✓		✓	✓	
l) processes and documented information for monitoring and verifying traceability activities and data		✓	✓	✓	✓
Skills					
a) programming and coding	✓				
b) troubleshooting	✓		✓	✓	
c) communicating usage requirements and processes to users			✓	✓	
d) conducting user acceptance testing		✓	✓		
e) performing traceability tests		✓	✓		
f) validating system performance and data		✓			
g) appropriate system security and data recovery options		✓	✓		
h) operation of infrastructure and equipment			✓	✓	
i) developing processes			✓		✓
j) estimating resources					✓

Annex B Personnel competencies for Traceability System Providers with traceability services

(Normative)

Traceability System Providers shall demonstrate that its personnel have the following competencies:

Competencies (knowledge and skills)	Traceability System Provider personnel involved in:			
	Animal identification	Capturing traceability data	Collecting and storing traceability data	Validating, monitoring and reporting
Knowledge				
a) appropriate methods, techniques and processes for identifying livestock	✓			✓
b) methods, techniques and processes for controlling, segregating and sorting identified livestock to ensure traceability is maintained	✓			✓
c) components and functions of equipment and materials used to identify and segregate livestock	✓			✓
d) methods, techniques and processes for capturing traceability data and supporting evidence		✓		✓
e) components and functions of infrastructure and equipment used to capture traceability data and supporting evidence		✓		✓
f) correct operation of infrastructure and equipment	✓	✓	✓	✓
g) backup processes and responding to emergency situations	✓	✓	✓	✓
h) relevant processes and documented information associated with tasks undertaken	✓		✓	✓
i) processes and documented information for monitoring and verifying traceability activities and data				✓
Skills				
a) identifying livestock	✓			
b) accurately counting livestock	✓	✓		
c) implementing the traceability system	✓	✓	✓	✓
d) where static visual imagery is relied upon as supporting evidence, taking images which are appropriately		✓		✓

Competencies (knowledge and skills)	Traceability System Provider personnel involved in:			
	Animal identification	Capturing traceability data	Collecting and storing traceability data	Validating, monitoring and reporting
framed as required by this Standard				
e) accurately completing documented information for livestock movements		✓		✓
f) implementing processes to control and sort livestock	✓	✓		
g) complying with workplace processes and documented information	✓	✓	✓	✓
h) operating and maintaining equipment used to identify animals and record their movements	✓	✓		✓
i) completing and maintaining records and documentation	✓	✓	✓	✓
j) maintaining sites, infrastructure and equipment used to identify livestock	✓			✓
k) communicating effectively and maintaining accurate reports and records	✓	✓	✓	✓
l) operating and maintaining equipment used to monitor and verify traceability activities and data			✓	✓
m) performing reconciliation activities			✓	✓
n) operating emergency and backup equipment	✓	✓	✓	✓

Annex C Key data elements to be captured for the different types of events

(Normative)

Key data element	Type of event		
	Master level event	Transaction event	Critical movement event
The type of event which occurred.	✓	✓	✓
Party providing the event data.	✓	✓	✓
Date and time the event took place using a format consistent with ISO 8601	✓	✓	✓
Identification of the animal or group of animals.	✓	✓	✓
Number of head involved in the event.	✓	✓	✓
Species involved in the event	✓	✓	✓
The identification and items specified in 7.1 b) of the originating traceability location.	✓		✓
The identification and items specified in 7.1 b) of the destination traceability location. NOTE Destination may include death or slaughter.			✓
The identification and items specified in 7.1 b) of the traceability party who had physical custody of the animals when the event took place.	✓	✓	✓

Annex D Traceability testing methodology

(Normative)

a) Animal selection

i. For all traceability systems:

- 1) Random selection of 10 different animals or group of animals from 10% of Facilities

ii. For supply chain traceability systems:

- 2) Random selection of 10% of animals from 10% of supply chains under management

b) Test criteria

i. For all traceability systems:

- 1) Within 10 days of commencing the exercise:

A. For live animals:

- for each animal or group of animals the following can be identified:
 - current traceability location; and
- current traceability party with physical custody; and the current traceability location can show where the animal or group of animals:
 - came from; and
 - were sent to.

B. For dead animals:

- for each animal or group of animals the following can be identified:
 - traceability location where the death occurred;
 - traceability party responsible, when the death occurred for physical custody;
 - reason for death; and
- the previous traceability location which consigned the animal or group of animals to the traceability location where the death occurred.

ii. For supply chain traceability systems:

- 1) Within 10 days of commencing the exercise:

A. For all animals:

- prior to the animal or group of animal's current traceability location or death, each of the following can be identified back to the master level event:
 - traceability location which received the animal or group of animals; and
 - traceability party at each traceability location who had physical custody.