



agriculture, forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

DRAFT DOCUMENT ON REGISTRATION, APPROVAL, TRACEABILITY AND MOVEMENTS RECORDING OF TERRESTRIAL ANIMALS IN SOUTH AFRICA FOR DISEASE CONTROL

Animal Production, Health and Food Safety

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Comments can be send before 30 April 2017 to the following email: Vet.Strategy@daff.gov.za

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1. DEFINITIONS/ GLOSSARY OF TERMS/ ACRONYM

Definitions

Animal identification means the combination of the identification and registration of an animal individually, with a unique identifier, or collectively by its epidemiological unit or group, with a unique group identifier.

Animal identification system means an integrated platform inclusively hosting components such as identification of, owners, the person(s) responsible for the animal(s), animal lifecycle data, movements and other records with animal identification. Simultaneous access to authorised users of the competent authority to an animal's individual lifecycle history via electronic medium.

Registration is the action by which information on animals and establishments) is collected, recorded, securely stored and made appropriately accessible and able to be utilised.

Animal traceability means the ability to follow an animal or group of animals during all stages of its life.

'**Owner** means a natural or legal entity, person, having animals and products under their responsibility, including a mandated animal keepers and transporters on behalf of the owner, but excluding pet keepers and veterinarians;

'**Establishment**' means any premises, structure, location or any environment, in which animals are kept, except for: (a) households keeping pet animals; (b) non-commercial aquaria keeping aquatic animals; (c) veterinary practices or clinics;

Dip tank mark – a mark allocated in terms of section 18 of the Animal identification Act, 2000 (Act 6 of 2002) that includes an alphabetical or numerical character to identify the Province and one to two alphabetical characters to identify the specific dip tank including the GPS co-ordinates

'**Products of animal origin**' means: (a) food of animal origin, including honey and blood; (b) live bivalve molluscs, live echinoderms, live tunicates and live marine gastropods intended for human consumption; and (c) animals other than those referred to in (b) destined to be prepared with a view to being supplied live to the final consumer;

'**Transporter**' means an operator transporting animals on its own account, or for a third party;

National mark – a mark allocated in terms of section 18 of the Animal Identification Act depicting a three legged pot to be used as prescribed in addition to the ZA embossed and laser marked on the ear tags and the ZAF.

Numerical character – a number between one and nine that forms part of a dip tank mark to identify a specific province in South Africa. Numeral mark will have a corresponding meaning

Traceability – the ability to verify a document, report, claim or statement that relates to the regulatory compliance or liability or movement, disease management, statistics and other marked related history, location or application of an item via an integrated animal identification and traceability management platform.

DRAFT

Acronyms

AIRT	Animal Identification, Recording and Traceability
AIDA	The Animal Identification Act, 2000 (Act no 6 of 2000)
DAFF	Department of Agriculture Forestry and Fisheries
ICAR	International Committee for Animal Recording
NERPO	National Emergent Red Meat Producers Organisation
OIE	World Organization for Animal Health (translated from the French)
RMRDT	Red Meat Research and Development Trust
RPO	Red Meat Producers Organization
SAPS	South African Police service
SAOBC	South African Ostrich Business Chamber

2. PURPOSE OF THE REGISTRATION, APPROVAL, TRACEABILITY AND MOVEMENTS RECORDING SYSTEM IN SOUTH AFRICA

AIRT is necessary to accurately establish the numbers of the national herd and to allow for the monitoring thereof. The system is an indispensable tool in safeguarding the national herd through preparedness for disease outbreaks, thus ensuring speedy containment and limiting damages to national and international trade. The aim is to improve the access of livestock farmers to improved sanitary (animal health and product safety) services; and to provide opportunities for a more stable, predictable income generating market opportunities for the livestock and agricultural products sector.

Ultimate Objectives:

- To be able to trace meat, animal food products and livestock back to farm of origin;
- To be able to trace disease outbreaks back to source and determine the possible spread of the outbreak;
- To manage disease outbreaks;
- To expand market access;
- To assist in the control of stock theft.
- To be able to support local farmers with disaster relieve in case of disease outbreak

3. KEY REQUIREMENTS FOR A FUNCTIONAL AND EFFICIENT AIRT SYSTEM FOR FARMED BOVIDS

In order to implement a functional and efficient AIRT system a phased-in approach is highly recommended.

A functional AIRT system aims to identify animals individually and register them on a central database. Such an AIRT system must be able to link with animal movement information, laboratory results for animal diseases (e.g. brucellosis) and also link with residue and microbiological testing for antimicrobial resistance and food safety.

Such an AIRT system should include:

- Individual Identification on a multi species livestock integrated platform and provision for the inclusion of imported livestock to enable the competent authority to manage all entrants' movements and locations up to end of life.
- A national property identification system to accurately establish where livestock are kept. Requires an integrated system that can link to location "property" registration, or owner/business legal entity information

- Registration of establishment from a central authority. The integrated platform must be the central registry for all farm locations and owners, brand marks.
- Official identification numbers of animals (individual and group) allocated from a central database
- Ability to adapt and record different identification means
- Allocation of herd or flock identification (epidemiological unit) code for branding.
- Owner identification
- Registration of common areas where animals are handled, including: Sale yards, show grounds, stationary and hospitals, pounds, race courses and shearing sheds.
- Registration of abattoirs and processing plants.
- Standardized requirements for: identification devices and the administration thereof. (Distribution of Official Identification Devices, Replacement of Official Identification Ear tags, Issuance of Duplicate Official Identification Ear tags, Approved Tagging Sites)
- Registration of identification device distributors.
- Required permit(s) for movement of designated animals, tags and animal products.
- Notification of movement of designated animals, tags and animal products.
- Notification of death, theft or stray of individually identified animal.
- Notification of slaughter at abattoirs.
- Duty of officials in relation to notifications received.
- Animal registration and keeping of registers.
- AIRT central data bank and backup.
- Software and servers capable of capturing and processing all the relevant data as needed to run a functional AIRT system.
- Controlled access by stakeholders.
- Compliance with protection of public information.
- Adaptable AIRT system with a point for future expansion.
- Sufficient resources available to implement and maintain AIRT system.

4. PROPOSED LEGISLATIVE FRAMEWORK

APPROVAL OF CERTAIN TYPES OF ESTABLISHMENTS

Obligation to register places on which prescribed animals are kept as a registered establishment: (1) Any person who holds, keeps or handles any terrestrial animal on any place which under the procedures is required to be registered as a registered establishment for the purposes of this part, must apply in the prescribed manner for the registration of that place as a registered establishment as specified in the regulations and or veterinary procedure notice.

(2) An application for registration of a place as a registered establishment must be made in the manner, and be accompanied by such documents, as the veterinary authority may determine.

IDENTIFICATION AND REGISTRATION OF KEPT ANIMALS SYSTEM

A system for the identification and registration of kept animals and, when appropriate, for the recording of their movements shall be established, taking into account:

- (a) the species or category of kept animals;
- (b) the risk posed by that species or category.

2. The system provided for shall include the following elements:

- (a) the means to identify animals individually or in groups;
- (b) identification documents, movement documents and other documents for identifying and tracing kept animals;
- (c) up-to-date records to be kept by the owner in the establishments for auditing purposes;
- (d) a computer database of kept animals provided for

3. The system provided for shall be designed in a manner that it:

- (a) ensures the efficient application of the disease prevention and control measures provided for in the Regulations;
- (b) facilitates the traceability of kept terrestrial animals and their movements within and between province ;
- (c) ensures the efficient interoperability, integration and compatibility of the elements of that system;
- (d) ensures that the system, to the extent appropriate, is adapted to: (i) the computerised information system for national notification and reporting provided for; (ii) computerised information management system provided for by responsible Authority;
- (e) ensures a coherent approach for the different animal species covered by the system.
- (f) Ensures that relevant animals are visually identifiable and can be match to a corresponding system entry.

4. Province, Food and livestock Industry organisations, organisations in the livestock values chain or other Departments may when appropriate:

- (a) use the whole or part of the system provided for, for delegated purposes;
- (b) integrate the identification documents, movement documents and other documents with the animal health certificates or self-declaration document provided for ;
- (c) designate another authority or authorise another body or a person for the practical application of the identification and registration system provided for in paragraph 1.

COMPUTER DATABASE OF KEPT ANIMALS

1. A computer database shall be established and maintained, for the recording of:

- (a) the following information related to food producing animals: (i) their individual identification; (ii) the establishments keeping them; (iii) their movements into and from establishments; (iv) their health status
- (b) information related to kept animals of species other than those referred to) when this is provided for.

RECORD KEEPING

1. Owners of establishments subject to registration or approval shall keep and maintain records containing the prescribed information.

- (1) A person who holds, keeps or handles prescribed animals on a registered establishment must - (a) keep auditable registers, and record information; and (b) provide accurate returns giving information in respect of the birth, death, loss and movement of prescribed animals on or from the registered establishment as may be prescribed. Such registers should all be linked/recorded on the electronic data management system.

TRACEABILITY REQUIREMENTS FOR KEPT ANIMALS

(1) A person may not remove any prescribed animal from a registered or unregistered establishment to any other place within South Africa, unless -

- (a) the person holds a movement permit which authorises the movement of the prescribed animal from the registered establishment to that other place and (b) the movement is carried out in accordance with the conditions as prescribed and as specified in the movement permit. If a movement permit system is introduced it must be captured and managed electronically with paper printouts for use

(2) Despite that a movement permit authorises the movement of a prescribed animal specified in the permit, a person may not move that animal from its registered or unregistered establishment if (a) the person knows or has reason to believe that the animal is infected and (b) the permit does not specifically authorise the movement of the animal so infected.

(3) An application for a movement permit must be made to a responsible official by means of an application form. A movement permit shall authorise the movement of any specified animal only within the period specified in the permit subject to the specified conditions.

TRACEABILITY REQUIREMENTS FOR FOOD OF ANIMAL ORIGIN

Food business operators shall ensure that accurate information concerning consignments of food of animal origin, feed and veterinary medicines is made available to the next operator to whom the food, feed and veterinary medicine is supplied and, upon request, to the regulatory authority. The basic requirements for the design and implementation of the feed and food traceability system shall be based on ISO 22005.

OWNERS OBLIGATIONS FOR THE IDENTIFICATION OF PRESCRIBED ANIMALS

A person may not – (a) keep, or cause or permit to be kept, on any registered establishment; (b) move, or cause or permit to be moved, from a registered establishment; (c) receive, or cause or permit to be received onto a registered establishment for any purpose other than to keep; (d) by means of any conveyance or otherwise move, or cause or permit to be moved, along any road or any other place not being on the registered establishment, any prescribed animal, unless that animal is distinctly identified in the prescribed manner by means of an authorized mark, tag, transponder or other indicator approved for the purpose of ascertaining the ownership, origin, location, movement history, disease status and fate of the animal.

Owners keeping prescribed animals shall: (a) ensure that those kept animals are identified individually by an approved physical means of identification; (b) ensure that information on movements of those kept animals from and into the establishment is transmitted to the computer database provided for.

5. STANDARD OPERATIONAL PROCEDURES –FMD-PROTECTION AND INFECTED ZONES

This section is to set procedures for the implementation, maintenance and management of an identification system in the Foot and mouth disease (FMD) protection zones in the Limpopo, Mpumalanga and KwaZulu-Natal (KZN) provinces and in the high surveillance area with movement control in KwaZulu-Natal province (KZN) of South Africa.

SUPPLY AND DISTRIBUTION OF OFFICIAL EAR TAGS

Proper administration of official identification devices is critical to support animal disease traceability. Responsible authority will provide certain official identification devices to producers to apply to their animals and to accredited officials to apply to animals. Responsible authority, through an application and approval process, approves ear tags and devices that meet established standards. Approved official ear tag numbering format will be allocated by the competent authority or its mandated local distributor, to supply imprinted or encode animal identification numbered identification devices only on their approved local resellers or authorised distributors.

Ear tag and device local supplier manage and distribute the tags and devices keeping record of each tag distributed, whom it was distributed through. Only authorised parties, registered on the database, whom has been accredited including all roll players mandated may distribute, resell or tag animals. All distribution records of tags administered by coordinators and approved officials must be reported to the database by the person who has possession of the device when distributing the device to the next individual, whether it is a producer or another reseller.

All recipients of tags and devices must first be registered in the database and provide their identification number to the person that they are obtaining the devices from. The person responsible for the distribution of the tags is responsible for the entry of the distribution record into database.

Issuance of Replacement Eartags

Duplicate official identification eartags may be obtained from approved eartag manufacturers/distributors when an official eartag is lost and the owner or person responsible for the animal needs to retag the animal with the official identification number of the lost eartag. Replacement tag should be issued with the original ID tag numbers linked in the system for reference and verification.

SYSTEM PROCEDURES

Preparation

This section applies to the area of South Africa that is not part of the free zone, including the infected zones, protection zones with vaccination and protection zones without vaccination. It also applies to the high surveillance area with movement control that is part of the free zone in KZN.

Official Identification Numbers - Animals

Official identification numbering systems are fundamental to animal disease programs. Official identification numbers are unique numbers permanently associated with individual animals or groups of animals. Any other numbering system approved by the responsible authority for the official identification of animals may be used.

The animal identification number (AIN) to be used may be a unique number, where the first two numbers (27) are the UN/ISO digit country code for South Africa, followed by digits that are available for the animal's unique identifying number. A generic numbering should be used and the system should host the movement and location of the tags.

The ZA code (embossed in the tag) in the logo on the visual ear tags is the ISO alpha country code for South Africa. Since the area of animal identification is evolving, details on current specifications of the official ear tags to be used is subject to further discussion.

The eartags for the protection zones with and without vaccination will be marked with an "F" after the "ZA" in order to show that the animals do not have FMD free zone status.

The specifications of the tags are as follows:

- ICAR approval
- Tamper proof, single use polyurethane tags from an ISO 9001 manufacturer
- Numbering has to be laser print quality
- Visual number and barcode on tags
- Unique bar code must be issued from a central, internationally compliant, database (FACTT) for verification and authentication and may not be duplicated. The unique digit number must be embedded in the barcode for security purposes and be verifiable against a central repository/ database.
- Male and female tags must be embossed above the bar code and number with the country specific logo (ZA) in order to differentiate them from blank tags in the commercial market to prevent fraudulent duplication.
- The pink and green ear tags that are used for animals outside the free zone will also be embossed with a capital F above the barcode and unique number to indicate the non-free zone status of the animals.

APPLICATION

1. Before ear-tagging commences cattle owners are informed of the intention to and reasons for application of ear tags. Consideration will be taken to prepare a well thought through awareness campaign, training of both officials and all users, practical implementation on a national basis. A call centre and interactive web portal will be developed to support implementation.
2. Ear tags are applied to the ear of all cattle with recording of each application event. The following information must be recorded in full for each application event: date, owner information, age, sex, colour, breed and species, disease status where applicable etc.
3. Calves are to be ear tagged at birth or first contact before three months of age, with recording of each application event.
4. Newly introduced cattle are to be ear tagged before they are moved or receive treatment or vaccination or disease testing done during support programs of the Veterinary services in the areas with recording of each application event and accompanying departure and arrival registers.
5. Cattle which lost ear tags for whatever reason are to be retagged as soon as possible, with recording of each replacement event. This is done in the system with automated flagging indicating such variances from the software platform
6. Cattle of which ear tags have become unreadable are to be re tagged with recording of each replacement event.
7. Cattle of which the FMD zonal status has changed for whatever reason (permitted movement, change in vaccination area), are to be re-ear tagged as soon as possible, with recording of each replacement event and reference to the veterinary movement permit number, if applicable.
8. If cattle die or are slaughtered other than at an abattoir or approved facility the event should be recorded and the owner should retain the ear tag and make it available to the official or authorised third party who will be recording the data to the central database. The ear tag should be kept for a minimum period of three years for audit purposes (accounting principles)
9. If cattle change ownership and/or location for whatever reason and with or without movement involved, every such event is to be recorded (see change of owner report).
10. All records of distribution and application of ear tags and of change of owner and/or location of cattle are to be submitted on the relevant report form to the provincial FMD coordinator/data capturer within the specified period. The system will be used to record and monitor such activities
11. The data capturer captures all reports electronically within a specified period of receiving such reports.

ALLOCATION OF EARTAGS

Eartags are to be applied as follows:

Province	FMD infected zone		FMD free zone	
	FMD protection zone with vaccination	FMD protection zone without vaccination	FMD high surveillance area	Rest/whole of the free zone
Limpopo	green	pink	yellow	(yellow)
Mpumalanga	green	pink	yellow	(yellow)
KwaZulu-Natal	green	pink	yellow	(yellow)

Consecutively numbered ear tags should as far as possible be applied to cattle of one herd or owner. The use of a generically number ear tag will allow for swift and easy application.

Existing F-branding of all FMD vaccinated cattle on the right side of the neck must continue. No untagged cattle must be applied for to move or must be permitted to move.

6. STANDARD OPERATIONAL PROCEDURES – FMD-FREE ZONE

The key requirements of the traceability system are that all livestock movements must only be carried on the strength of the veterinary authority's approval through a livestock movement permit authorising the removal of animals from one holding to another.

Furthermore, all livestock must bear ownership identification marks and individual animal identification in the case of bovine, caprine, ovine, porcine and equines. Additional discussions regarding equines are required to discuss identification options.

To be able to maintain proper disease surveillance program animals should be tagged and recorded on the system as soon as possible after birth.

Farm and Communal Holdings

All farms and related holdings such as feedlots, villages and communal areas where livestock are kept are registered in the database. Approval must be sought for recognition of consolidation or partitioning of holdings where livestock are kept.

Identification Requirements

- i) All cattle on a farm or related holding are to be individually identified by means of an approved ear tag bearing a serial number.
- ii) All cattle leaving a farm will be required to be individually identified by means of an approved ear tag.
- iv) All small stock on a farm will be required to be clearly identified by means of an ear tag. Stock leaving the flock of origin has to bear ear tags.

Movement Control Documentation

- i) All prescribed animals leaving a registered or unregistered establishment (e.g. farm etc.) are to be accompanied by a valid livestock movement permit obtained from a veterinary authority office or from any authorised official or generated automatically from the data base system
- ii) The registered stock brands on the animals and the number of animals leaving a farm are to be clearly and correctly recorded in the space provided in the livestock movement permit
- iii) The permit is strictly valid for a specific period from the date of issue. No animals may be moved or received if accompanied by an expired permit.

- iv) All animals leaving a farm must be accompanied by a declaration on which the ear tag numbers of all the animals being moved are correctly recorded by the producer.
- v) Upon arrival at a farm or place of gathering, ear tag numbers of all the animals arriving on this consignment are to be correctly recorded in an arrival register by the producer.

Inventory Records

- i) All animals leaving the herd of origin must be recorded before removal.
- ii) All animals arriving at a farm must be recorded in a register within two days of arrival on the farm.
- iii) Once animals are tagged using the approved tags, the ear tag numbers must be recorded and loaded in the database.
- iv) Loss of officially tagged animals must be recorded in a register and loaded in the database.
- v) Any changes to the number of animals in the herd or flock must be recorded in the respective inventory register and loaded to the database.

Database Notification

- i) Following movement of animals, the livestock movement permit must be submitted manually, via service provider or electronically to the destination approved office within a specified period from the date of issue.
- ii) Upon receiving animals, the livestock movement permit, along with the departure and arrival registers must be submitted to the destination office within a specified period from the date of issue.
- iii) An unused livestock movement permit should be marked unused and must be submitted to the issuing office or official within a specified period from the date of issue.
- iv) Once animals are tagged using the approved tags, the producer is required to notify the central database within a specified period after tagging, manually or online. Farmers with no internet connectivity will be able to record offline and upload later.
- v) Loss or on-farm slaughter of officially tagged animals must be recorded online in the database or form which must be submitted to the approved office within a specified period of confirming the loss or date of slaughter.

LIVESTOCK SALES

All auction pens and other livestock sales facilities must be registered.

Identification Requirements

- i) livestock presented for public sale must be identified by means of an approved ear tag as prescribed by the authority for the Identification and traceability system “Official Tag”;
- ii) Imported livestock must be identified by means of the imported cattle tag bearing a unique serial number and should be recorded against an official tag if not intended for slaughter;
- iii) In addition, all livestock presented for public sale must bear clear official tag;

Movement Controls and Documentation

- i) All animals arriving at auction pens and registered public sale places must be accompanied by a valid livestock movement permit obtained from an approved office or from any authorised official or automatically printed from the database.
- ii) The unique animal identification on the animals and the number of animals arriving at the auction pens must be recorded by the auctioneer.
- iii) No animals may be moved or received if accompanied by an expired livestock movement permit. The livestock movement permit is strictly valid for a specified period from the date of issue.
- iv) All animals arriving or departing from an auction pen must be accompanied by a declaration on which the ear tag numbers of all the animals being moved are correctly recorded and all other documentation required by stock theft and customer declaration
- v) Upon arrival at an auction pen, ear tag numbers of all the animals arriving on this consignment must be correctly recorded in a form by the auction operator.
- vi) All animals dead on arrival or that die at an auction or are confirmed missing from an auction pen must be recorded in a form by the auction operator.

Database Notification

- i) Following receipt of animals at an auction, the livestock movement permit must be submitted to the attending authorised official before animals are presented for public sale. These permits are then forwarded to the approved office for capturing them onto the database within a specified period of completion of the sale when necessary.
- ii) Upon receiving animals at an auction, the livestock movement permit, must be submitted to the attending authorized official before animals are presented for public sale. Once approved by the authority, the auctioneer should be able to access the system and record the information and upload documentation. Alternatively, these

documents may then be forwarded to the approved office for capturing them in the database within 5 days of completion of the sale.

iii) The auction operator may submit electronically to the database the forms for cattle received and the and for cattle leaving the auction facility.

iv) Where applicable, the Livestock Termination forms must be submitted to the attending approved official by the auction operator following completion of the auction or information and upload documentation.

Shows and Other Exhibitions

All livestock show grounds or other exhibition facilities must be registered. Any person who intends to hold at least two or more livestock exhibitions where animals come from different holdings will submit an annual calendar to the approved authority, indicating the date, time and location. Any person who intends to hold an *ad hoc* livestock exhibition where animals come from different holdings must notify the approved authority office of the area within a specified period before the intended exhibition date.

Identification Requirements

i) Animals presented for public exhibition must be identified by means of an official ear tag

ii) Imported animals must be identified by means of the Imported livestock tag bearing a unique serial number and registered on the system to monitor entering and exiting the country

iv) Bovine, Ovine, caprine and porcine presented for public exhibition must be clearly identified by means of eartag,.

Movement Controls and Documentation

i) All animals arriving at an exhibition facility must be accompanied by a valid livestock movement permit obtained from an approved office or from any authorised official.

ii) The registered stock brands on the animals and the number of animals arriving at an exhibition facility must be clearly and correctly recorded.

iii) No animals may be moved or received if accompanied by an expired livestock movement permit. The livestock movement permit will strictly be valid for a particular period from the date of issue.

iv) All animals arriving or departing from an exhibition facility must be accompanied by a form, a declaration on which the ear tag numbers of all the cattle being moved are correctly recorded.

- v) Upon arrival at an exhibition facility, ear tag numbers of all the animals arriving on this consignment must be correctly recorded in a form by the exhibition organiser.
- vi) All animals dead on arrival or that die at an auction or are confirmed missing from an exhibition facility must be recorded in a form by the exhibition organiser.

Database Notification

- i) Following receipt of sheep and goats at an exhibition facility, the livestock movement permit must be submitted to the attending approved official before animals are presented for exhibition. These permits are then forwarded to the approved office for capturing them onto the database within five days of completion of the exhibition.
- ii) Upon receiving animals at an exhibition facility, the livestock movement permit, along with the Departure and Arrival forms must be submitted to the attending approved official before animals are presented for exhibition. These documents are then forwarded to the authorised office for capturing them onto the database.

Export abattoirs

All export abattoirs must be registered.

Identification Requirements

- i) Animals presented at an export abattoir must be identified by means of an official approved ear tag bearing a serial
- ii) In addition, all animals presented at an export abattoir must bear clear brand marks of the owner's registered stock brand.
- iii) Ovine, caprine and porcine presented at an export abattoir must be clearly identified by means of an official ear tag.

Movement Controls and Documentation

- i) All animals arriving at an export abattoir must be accompanied by a valid livestock movement permit obtained from an approved office or from any authorised official.
- ii) The registered stock brands on the animals and the number of animals arriving at an export abattoir must be clearly and correctly recorded in the space provided at the bottom of the livestock movement permit.
- iii) No animals may be received for slaughter if accompanied by an expired livestock movement permit. The livestock movement permit is strictly valid for a particular period from the date of issue.

- iv) All animals arriving at or departing from an export abattoir must be accompanied by a form, a declaration on which the ear tag numbers of all the animals being moved are correctly recorded.
- v) Upon arrival at an export abattoir, ear tag numbers of all the animals arriving on this consignment must be correctly recorded.
- vi) All animals dead on arrival or that die before scheduled slaughter or confirmed missing from an export abattoir must be recorded in a form by the export abattoir operator.

Post-slaughter Handling of Identification Devices

- i) All official identification devices removed from slaughtered animals must be cut in half from the bottom end towards the neck area to ensure that they cannot be re-used.
- ii) All these official identification devices removed from slaughtered animals must be stored by the abattoir for a specified period of time before being destroyed or sent to an approved recycling facility
- iii) Animals identification devices must be stored in batches based on the livestock movement permit used to move the animals to the abattoir. This is done to facilitate any further check-ups or audits by veterinary authority.

Database Notification

- i) Following receipt of animals at an export abattoir, the livestock movement permit must be submitted to the attending official before animals are slaughtered. These permits are then forwarded to the abattoir approved office for capturing them in the database within a specified period from slaughter date.
- iii) Within a specified period of slaughtering animals, the abattoir operator must electronically submit the slaughter data to the database. Hard copies of the slaughter data may be submitted to the abattoir approved office within specified period of slaughtering animals.
- iv) The termination forms must be submitted to the approved office by the abattoir operator within a specified period after confirmation of death or other loss.

Local Abattoirs

Local abattoirs refer to all abattoirs and other slaughtering facilities licensed by local authorities. All local abattoirs must be registered with in the database.

Farm Isolation Camps and Quarantine Camps

All farm isolation camps and quarantine camps in the surveillance zone are registered in the holdings database. Approval must also be sought from veterinary authority for recognition of an on-farm isolation camp. Find below details of identification and producers' record-keeping obligations.

Identification Requirements

- i) All animals moved from a surveillance farm to an on-farm isolation camp or quarantine camp, apart from identification provisions of the Animal Identification Act must be individually identified by means of an approved official ear tag.
- ii) All animals on a farm must be clearly identified by means of an official ear tag. Small stock younger than three months leaving the flock of origin bear official ear tags

Movement Controls and Documentation

- i) A livestock movement permit is issued against every entry into an on-farm isolation camp or quarantine camp.
- ii) All cattle, sheep and goats moved from a surveillance farm to an on-farm isolation camp or quarantine camp must be recorded in an Isolation Camp entry form, a declaration on which the ear tag numbers of all the animals being moved into isolation are recorded by the producer or by the head of Quarantine in the case of veterinary authority-run quarantine camps.
- iii) Loss of officially tagged cattle while in isolation must be recorded in a form.

Database Notification

- i) Following entry of livestock into an isolation camp, the producer must submit the Isolation Camp Entry form to the veterinary authority office within a specified period from the date of entry.
- ii) Loss or on-farm slaughter of tagged animals must be recorded in a form. This must be submitted to the approved office within a specified period of confirming the loss or date of slaughter.

Official Identification Devices for Cattle Tracing

Ear tags are used as the identification method for tracing individual cattle through the production chain. The underlying principle is that the ear tags must be un-re-usable and tamper-evident, and must have a high level of retention in cattle under diverse production environments.

Find below a summary describing the standard requirements for the official ear tags.

Official Ear Tag Performance Standard

a) Single Use

The ear tag must be of such a design that it can be un-reusable (used only once) and is tamper-evident. It should not be possible to remove and re-apply the ear tags without physical evidence showing that this action has taken place. Visual tags must be ICAR standards, tamper evident and un-reusable

b) Print Alteration

The print on the ear tags denoting the identity number of the animal, and other printed characters important for tracing animals must not be easy to alter without showing visual evidence of alteration.

c) Readability – Visual Component

The print on the visual and electronic ear tag must be easily and readily readable at a minimum distance 2m from the tag. The characters printed on the ear tag should be easy to read in field conditions and be capable of remaining legible during the animal's lifetime.

d) Tag Life Expectancy

The ear tag is expected to stay on the animal in a functional and readable condition for the lifetime of the animal.

e) Ear Tag Retention

If properly placed in the ear in the manner prescribed by the manufacturer, a retention percentage of not less than 99% is expected within a year of applying the ear tags and not less than 95% for the lifetime of the animals under normal South African field conditions.

f) Toxicity and Injury

The ear tag may not cause harm to an animal or affect its health or well-being. The ear tag may not have any physical or chemical effect on the meat or other products from this animal.

g) Deterioration

This must comply with ICAR recommended standard where there may be no diffusion of colorant from the ear tag. Other than the shade of colours, there must not be any physical deterioration of the tag as a result of UV light, rain, atmospheric heat up to 45°C or other environmental influences such as chemicals, mud, dust, urine, or manual handling for at least five years on the animal.

h) Plasticity

The ear tag may not crack during normal use under South African field conditions and must remain flexible

i) Tensile Strength

The ear tag coupling/tensile strength must at minimum comply with ISO standards 37 and 527. Coupling/tensile strength evaluation must be based on present ICAR testing standards.

j) Abrasion Resistance

The ear tag shall not show damage or change due to wear. In this regard the ear tag must comply with ICAR recommended standard or ISO standard 9352.

Bovine Individual Identification – Visual Tag

In addition to the performance requirements stated above, the specifications of each set of official bovine visual ear tags are as follows:

a) Description

The ear tag set must be a dual (male and female) tag. The female component must be a leaf-type tag and the male component may be a button or leaf-type tag. The ear tag shall be yellow in colour and made of good quality flexible plastic. A male and female leaf type tag is strongly recommended for day to day management. It is the objective that the farmer uses the official tag as the identifier in his day to day on farm management. ICAR standard will be the bench mark for the visual tag with a standard numbering system

b) Print Description

The print on the ear tags denoting the identity number of the animal, logo and other printed characters important for tracing animals. The male leaf-type component shall bear the country traceability system country code and an alpha numeric combination number to identify the animal. All fonts shall be those approved by the from time to time.

The female leaf-type component shall bear the country code traceability system logo, an alphanumeric code identifying owner's stock brand or herd of origin code with a serial code to identify the individual animal.

All fonts shall be those approved by the authority from time to time. In addition the female component shall bear a bar code to facilitate electronic readability of the tag to verify uniqueness

c) Tagging Device

The locking device on the tags shall be such that it is compatible with the 'Universal Tag Applicators' already in use in South Africa as recommended by the tag manufactures.

Bovine Individual Identification – RFID Tag

The mandatory bovine individual identification tag is the visual type described above. However, with the availability of the RFID tag and its appeal to those inclined to use automated recording systems, an RFID tag will be approved for those who prefer this route.

The RFID device shall be coded with a fully write-protected electronic code that cannot be deleted or altered. The code used shall be the approved code according to ISO standard 11784 code structure and ICAR approved. The RFID tag must also be certified for conformance with ISO 11785, the technical communication protocols standard.

In addition to the performance requirements stated above, find below RFID-specific performance requirements. The specifications of each set of official bovine visual ear tags are as follows:

a) Description

The ear tag set must be a dual (male and female) tag. The male component must be a leaf type tag and the female component. Both tag components shall be yellow in colour and the leaf-type tag must be made of good quality flexible polyurethane plastic composition

The printed section of the leaf-type male part shall be of approved size. The printing on the male part shall be on the outside (caudal surface) of the ear. The female part shall have an ISO-compliant RFID transponder encased in the combo leaf type female tag.

b) Print Description

The print on the ear tags denoting the identity number of the animal, country code alpha numeric unique number with ZA laser marked to differentiate it from other blank tags sold in the market place.

The male leaf-type component shall bear the country traceability system, an alphanumeric code identifying alpha numeric code to identify the individual animal from time to time. In addition the male component shall bear a bar code to facilitate electronic readability of the tag as to verify the uniqueness in case the electronic transponder embedded becomes faulty RFID tag.

c) Tagging Device

The locking device on the tags shall be such that it is compatible with the 'Universal Tag Applicators' already in use in South Africa as recommended by the tag manufacture.

d) Tag Reader

The RFID tag must be read with any ICAR approved standard reader, able to read ISO compliant universal reader.

RFID-SPECIFIC TAG REQUIREMENTS

DAFF has set the requirements for RFID tags to be used in this traceability system. In addition to the requirements described below, the tag must also meet the performance requirements stated above.

ISO Compliant – All transponders must be certified by ICAR who administers the testing procedures to determine compliance with ISO 11784 and 11785.

Read Rates – Transponders must have a read rate greater than 95% under field conditions in cattle moving in a cattle race in single file. In stationary animals the read rate must not be less than 99%.

Read Distance – Using a Universal ISO 11785-compliant reader, cattle should be read from a minimum distance of 60 cm from the device.

Lifespan – The transponder is expected to be reliable, functional and machine readable for the expected lifetime of the tagged animal or as stipulated by the supplier.

Security – The official ear tag number cross-referenced to the RFID number encoded in the tag must not be alterable. The encased transponder must be impossible to remove without physical evidence of tampering.

Official Identification Tags for Small Stock

The majority of Ovine and Caprine in South Africa maybe identified by means of a group identification system based on the owner's registered stock brands. Imported and breeding small stock will be required to be individually identified. Individual identification in small stock will be done by means of an ear tag.

Official Identification Tags for Pigs

The majority of porcine in South Africa maybe identified by means of a group identification system based on the owner's registered stock brands. Imported and porcine kept for breeding purposes will be required to be individually identified. Individual identification of kept porcine species will be done by means of a ear tag with a serial number.

Official Identification Tags for Ostriches

The majority of ostriches in South Africa will be identified by means of an individual identification system based on the owner's registered stock brands. Imported and ostriches kept for breeding purposes will be required to be individually identified. Individual identification in ostriches will be done as per VPN04 requirements.

Official Identification Tags for Equine

The majority of Equines in South Africa will be identified by means of an individual identification system based on the owner's registered stock brands.

Individual identification in Equines will be done by means of microchip bearing a serial number. The electronic standard of microchips should be in line with the livestock and other in the industry. ISO11784 transponder to enable read with universal readers ISO11785

Official Identification Tags for Aquaculture

The majority of fish in South Africa will be identified by means of a group identification system based on the owner's registered property and or stock brands. Group identification will be done.

A national livestock property identification system

All properties hosting livestock should be identified on the Identification traceability system with GPS coordinates and physical address of the farm location for rapid response and land, soil management. This should be linked to the owner of the land, the person leasing the land or the entity that has the right to use the land.

Such locations include: Crush pen area; Ranches; Village; Cattle Post; Farms; Grazing Area; Auction point or traditional market; Abattoir or other slaughter facility; Ports of entry; laboratory; Quarantine camp or feedlot; Exhibition ground and; Any other locations where livestock are raised, held, or commingle.

The definition and examples listed above are guidelines for registering establishments. Some of the locations are difficult to categorize. Industry and Veterinary authority will be better able to address variations in livestock production systems and husbandry practices.

Each establishment where livestock is kept or held will be assigned with a unique identification number UID on a GIS-enabled database thus providing officials with the exact origin and location of an animal in the event of a disease investigation. The database will contain the following minimum information about each establishment:

Establishment name; UID; Physical address; Province; Municipal district; Veterinary Inspection office; GPS coordinates; Establishment type; Disease risk management zone.

As officials register holdings, they should consider crush pens (service points), the local authority structures, nature of settlements and the husbandry practices. In some regions, many farmers have several locations where their livestock can be found. Therefore, the number of locations where a keeper may be registered will vary from one area to another. Consultation between livestock keepers and the local veterinary official is needed to decide how many of the locations a keeper should be linked to. This decision should also consider the following epidemiological factors:

Permanence of settlements

Locations that have permanent livestock facilities such as pens and corrals and/or human dwellings should be registered as holdings, whereas locations where livestock is held on a temporary basis such as seasonal common grazing areas should be registered with a link to primary holdings of the animals in order to produce a comprehensive picture of where the animals are kept.

Sparse settlements

In sparsely populated areas where livestock herds are served by a single crush pen, it is important to identify enough separate holdings under that crush pen in order to establish the true epidemiologic picture of the area.

The risk of exposure of holdings through animal contact differs when the distance from one holding to another increase. The reference point used will be distant from where animals are located or kept.

Animal movements

If there is routine movement of livestock under one management between multiple holdings and posing no additional risk through animal contact, there may be no epidemiologic advantage to consider the locations as separate entities. These holdings could be registered separately but linked as common holdings.

The system will have an extensive database of all holdings such as farms, communal areas and feedlots where livestock can possibly be kept either on a permanent or a temporary basis.

Farms partitioned into separate entities or a number of adjoining farms run as consolidated units will also be registered as such on the database.

The database also includes transit locations such as market and exhibition grounds, slaughter and export collection centres and border posts.

All registered abattoirs and other slaughtering facilities will be listed.

Basic information about all these holdings will follow the requirements of VPN02(A);VPN02(b); VPN04; VPN05 and VPN07. This will include name, location number, GPS location, unique property code, the veterinary office carrying out routine inspections province, district municipality, local municipality per the demarcations board. These details ensure that the holding is located within a short time.

Allocation of herd or flock identification (epidemiological unit) code for branding /Animal Identification Numbering System

The animal identification number (AIN) system that is going to be used will be discussed. Since the area of animal identification is evolving, details on current specifications of the official ear tags to be used is subject to further discussion.

7. ACTIVITIES

Considering the complexity and the multipurpose nature of AIRT, its development will follow a phased approach involving all relevant stakeholders. However, some activities can be conducted in parallel.

Development of the AIRT Strategic Implementation and Action Plan

To develop the strategic implementation and action plan, several sub-activities will be conducted:

1. Comprehensive reassessment of the current situation: The institutional, policy and legal frameworks

The following Acts and Bills need immediate attention: Meat safety Act; Animal Diseases Act; National Pounds Bill (DAFF); Agricultural Produce Agents Act (DAFF); and Movement of Animals and Animal Produce Act (SAPS) and Animal Identification Act.

This will include Integration of stud book system into one National Animal Identification System (through a Regulation requiring an application for mark renewal and the integration of the Stud Registry into one National Animal Identification System), link to compulsory livestock removal documentation as required under the Stock theft Act, 1959 and renewal of the brand marks with records updated every 5 years.

A Public-Private Partnership (PPP) enterprise or interested service provider to administer and implement systems for the actions and phases must be established in the medium to long term. In the short term, exploration synergies with existing public entities or recognised assignee such as South African Meat Industry Company (SAMIC), The Perishable Products Export Control Board (PPECB) or the Agriculture Research Council (ARC) to host the platform should be done.

2. Identify stakeholders and their needs (User Requirement analysis)

Comprehensive assessment is needed for all:

- i) the sectors and production systems;

- ii) existing systems, ongoing related programmes and practices highlighting/mapping hazards that could have an animal disease and/or food safety impact, and
- iii) the infrastructure for information and communication.
- iv) Property identification entity/ responsible department
- v) Continuous monitoring and periodic evaluation (auditing) of the system

A series of workshops will be organized with identified stakeholders to document their information needs and potential roles and responsibilities in running. These workshops will also be used for peer review and confirmation of the findings of the above studies.

These workshops will allow buy-in by stakeholders not directly involved in the management of AIRT, those who would benefit from it (e.g. Ministry of Health, NGOs) and/or those who would provide input into it. One of the results would be the integration of AIRT into the national Food Safety System.

3. Design of the livestock identification, registration and traceability system

The AIRT will be designed based on the previous assessment and stakeholders' needs. This will include redefining i) the objective and scope of the AIRT; ii) the use cases [what to record for what functions]; iii) the rules and procedures for data recording and use; iv) the architecture of the system; v) the information technology technical specifications; etc.

4. Preparation of the action plan for the implementation of AIRT

The strategic plan will, among others, identify the pilot intervention region, establish the implementation units, provide details on staffing and costing and define operational roles and responsibilities. A road map for the phased implementation of the AIRT will also be established. The main phases are: the preparatory phase, the system implementation and roll-out phase.

Implement the strategy and action plan

Implementing the strategy and action plan developed above, will be done through the following sub-activities:

Preparatory Phase (Phase 1)

1. Analyse the functioning of the current AIDA branding system and INTERGIS system. This will serve to see what has been done and what still could be done?
2. Streamline the establishment and Animal Identification data

Collect information and use to record establishments, farms and owners. This include proof of South Africa land ownership, a lease contract or communal ownership etc and the compulsory stock register system for communal farmers;

3. Develop/customize the AIRT software platform

A modular software will be purchased (and customized) or developed locally, based on the system specifications defined above (use cases and information technology technical specifications). This includes the testing and validation of the software and database. To conduct this activity, a tender will be organized. Business plans and budget will be compiled for each of the phases.

4. Set up the enabling environment

This refers to setting up the legal and institutional frameworks by reviewing specific legislation and/or amending existing ones, establishing the national (central) and regional (decentralized) implementation units and recruiting the required staff (preferably from the outset of the project), procuring equipment and consumables, etc.

It is very important to make adequate provision for the field work, including incentives for the field technicians, in charge of animal identification and registration, as well as the data entry staff.

The identified entity or competent authority will appoint identification system distributors, administer the animal identification, recording and movement control system and specify the minimum requirements for identification and information recording equipment, Systems for meat traceability to farm of origin (including laboratory results). Incorporate information in existing feedlot and abattoir systems.

Compliance relating to marking, documentation and movement requirements at all points of departure and arrival with change of ownership and vendor declaration compliance at all points of sale will be enforced.

The DAFF red permit system will be linked to the traceability system.

5. Develop a communication and training programme

The awareness raising and training will start during the preparatory phase, but will also continue later on. That is why they are presented here. The related sub-activities are:

- i. Develop the communication and training material: public awareness materials, standards and guidelines.
- ii. Train relevant personnel and stakeholders
- iii. Conduct awareness raising campaign

System Implementation and Roll out Phase (Phase 11)

1. Implement the AIRT in the field pilot phase

Introduce stepwise AIRT in the pilot region. This will be chosen based on objective and measurable criteria to be defined with all relevant stakeholders for the targeted species. The meaning of stepwise is that, the implementation will start with initial test of the field operations followed by full roll-out to the entire pilot region.

2. Implement the AIRT in the field:

This will follow up after evaluation of the implemented of the pilot phase. The AIRT will then be extended to other regions.

This implies that the infrastructure is available and all system elements, as well as field activities, can be financed. The mandatory identification of each new born calf and its mother in the new system may be required at this stage which is likely to be from a specified date such as beginning of year 2020.

The identification of FMD protection zone cattle and implementation of a comprehensive database for livestock identification, treatment and movement of livestock in the FMD protection zones will be included as well as linkage of the DAFF red permit system to the traceability system.

3. Implement the AIRT in the field:

Compulsory identification of vaccinations and Brucellosis vaccinated heifers may begin at this stage. All cattle identification and traceability requirements to farm of origin will be made at this stage. The AIRT will also be expanded to other species should they be not yet included.

Estimated Duration upto the pilot phase (tentative): 2017-2020 (3 years)

Establishing an AIRT requires many years of work to complete the functionalities, to facilitate the integration with other information systems and to make it successfully operational in respect to the envisaged purposes.

We present here a tentative duration for its development and implementation in a pilot region. This duration depends greatly on the size of the pilot region (structure and size of the target livestock (cattle) population), as well as the existing infrastructure.

Development of AIRT Strategic implementation and Action Plan: ~ 1 year

Implementation of the action plan (preparatory phase): ~ 1 year

Implementation of the action plan (role-out and system implementation phase): ~ 1 year (only certain activities)

INDICATIVE PROJECT COSTS

A summary of indicative project costs estimates for 3 years will be developed.

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9. **DOCUMENT OWNER**

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