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Guidelines for national veterinary services

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ADMINISTRATION

In addition to their official duties under the Stock Disease Regulations and other work of a professional nature, Veterinary Officers in charge of regions and Veterinary Officers in charge of sections, as well as other senior staff are responsible for various matters of administration and the following are issued as a general guide.

1. **Discipline and welfare of staff**

   Responsibility rests with the Veterinary Officer or other senior officer in charge for the welfare and discipline of staff working under him, whether they be established Civil servants or staff temporarily employed.

   Veterinary Officers are to ensure that the recruitment of staff is done according to laid down procedures in conjunction with the human resource department, that appropriate remunerations are paid and that all requirements for necessary deductions e.g. provident fund and graded tax are met.

   The Veterinary Officer is expected to make confidential reports, disciplinary letters, etc on members of staff annually and as maybe required. He/she should ensure appraisal reports are submitted timeously, especially in the case of those who have reached the end of their probation, usually two years after recruitment, so that they may either be:

   a. Placed on the pensionable establishment
   b. Given a further probationary period or
   c. Dismissed as unsuitable

An officer who has been convicted by the courts for a criminal offence, unless it is of a minor nature (as per GOs), must be reported through appropriate channels that involve the Principal Secretary so that any necessary action such as suspension from duty is taken timely and properly by the authorities.

Veterinary Officers and other senior staff must ensure that an immediate report is made to the Principal Secretary where members of their staff are involved in police proceedings or other alleged serious misconduct. Copies of such communication should be made to their immediate supervisors and the Head of Department. It is the Principal Secretary who is authorized to recommend to the Civil Service Commission any punishment to be meted out to a member of staff following submission of evidence and after completion of a disciplinary process as in the General Orders.

Swaziland Government General Orders should be referred to in all matters affecting discipline and general welfare of staff. They include information on:

a. Medical Referral Scheme

b. Salary scales
c. Annual increments
d. Subsistence allowances
e. Travel allowances, including those for bicycles
f. Retirement benefits
g. Government quarters and rentals
h. Official telephones
i. Official Secrets Act
j. Any other matter

2. Housing for staff

Housing provided for Veterinary Department Staff is divided into two types:

2.1 Government quarters
2.2 Veterinary Department housing

The provision of (2.1) is governed by Swaziland Government General Orders (part 7). Such quarters are only allocated to officers where available and occupants pay rental.

Housing facilities under (2.2) are provided closer to field officers' duty stations. These are usually officers such as Veterinary Assistants and Cordon Guards.

Under situations where government cannot provide accommodation staff members have to find their own accommodation, and these officers are entitled to housing allowance.

3. Vote of funds and expenditure warrants

The Veterinary Officer or other officer in charge must ensure that all funds warranted to him at the beginning of the financial year are spent for the purposes for which they have been allocated, are correctly accounted for and are neither overspent nor under spent. Instructions on accounting methods and procedures are available in Swaziland Government Financial and Accounting Instruction issued from time to time by the Ministry for Finance and in circulars issued by the Treasury and Ministry of Agriculture's Accounts Sections. Assistance and advice may be sought from the Senior Accountant at the Ministry's Headquarters or the Accounts Section in the region.

Veterinary votes are usually under the following headings:

- Stock Disease Control
- Running Costs-General
- Running Costs-Vehicles
- Labor and Rations
- Traveling

All types of expenditure should be closely monitored and verified by the warrant holder. All allowances claimed by staff should be adequately interrogated for authenticity by supervisors, countersigned by the warrant holder before submission to Accounts Section for payment.

4. **Estimate of expenditure**

   Draft estimates must be prepared annually, usually about July showing estimated expenditure for the following financial year (commencing 1 April) under various vote items. Forms for the purpose are normally sent by the Accounts section at Headquarters.

   If during the financial year, additional provision is required for some special reason or if exceptionally he desires to have funds reallocated from one vote to another, the Veterinary officer must make application well in advance of requirements to headquarters (see Financial and accounting instructions).

5. **Cash Receipts**
   Veterinary Officers may receive cash in payment for clinical work carried out for members of the public. The method of accounting for and disposing of such cash is given in the 'Financial and Accounting Instructions". As an alternative to paying cash members of the public who appear to be in good standing may sign an "application for treatment" form. They will then be sent an account for the work done by the accounts section, to whom the above form should be submitted, endorsed by the Veterinary Officer with details and cost of treatment. There is a schedule of charges covering numerous treatments, but Veterinary Officers may use their own discretion in making charges fit each particular case and circumstances of the animal owner.

6. **Stores and equipment**
   The Veterinary Officer is in charge for all stores and equipment in his/her region or section. These must be correctly entered in Stores Ledgers, be regularly checked and signed for by staff when removed from the stores. They must be made available for checking by the Stores Officer annually. The Stores Officer will give reasonable notice of his visit.

   All stores including drugs must be kept in a safe and secure place. Firearms, drugs used for euthanasia and dangerous drugs such as sedatives and anaesthetics must at all times be kept under lock and key.

   Stores Regulations, issued by the Swaziland Government, contain full instructions on procedures, including steps to be taken when stores are lost, damaged or destroyed and for write-off of worn equipment. These must be followed at all times to avoid audit queries.

7. **Motor transport**
   The Veterinary Officer is in charge of all vehicles and plant in his/her region or section. These must be correctly accounted for as regards to fuel and other supplies, be maintained in proper condition as regards to safety, security and cleanliness, and be sent to C.T.A workshops for servicing and maintenance in accordance with the maker's instruction or those given by C.T.A. Vehicle log sheets must be kept and

carried on the vehicle, together with blank accident report forms. All fuel must be obtained by filling in an "Authority to draw fuel" voucher which is shown to the pump attendant at C.T.A. Once monthly, these vouchers should be forwarded to headquarters with a vote book.

All journeys must be approved by the Regional Transport Officer (usually the Veterinary Officer) who must first fill-in (in duplicate) an authority for use of the vehicle. Details of route, passengers and load must be filled in as well as speedometer readings before and after each journey. Instructions for the disposal of the copies are found inside the front cover of the book in which they are contained.

Under current arrangements petrol is charged for against the Running Costs-Vehicle Vote. Maintenance and servicing is carried out by the C.T.A. Further details on transport management are found in the MOA Transport Management Manual.

8. **Government animals**
Veterinary Officers are responsible that any animal on their charge, e.g cordon horses, are properly fed, managed and receive such vaccinations as are considered necessary at the proper times and intervals. A record card showing details of treatment, vaccination etc must be kept for each animal. Deaths must be reported on form ST 443/1970 to headquarters. Similarly, Veterinary Officers are expected to treat government animals in government farms or under the Bull Loan Scheme and provide the relevant death certificate where applicable.

9. **Public Relations**
Especially in the case of Veterinary Officers in charge of regions it is important to co-operate with and obtain the co-operation of, the Regional Administration and Departmental heads in the regions. In this connection the Regional Veterinary Officer should endeavor to attend regional team meetings or when unable to do so send a representative. Details of proposed livestock extension work in the region should be brought forward at the meetings (the Livestock Extension Officer of the region (see 10 below) may him/herself be a member of the regional team), as well as details of disease outbreaks, especially when these affect the general public.

The Regional Administrator should be promptly informed of any serious outbreaks of animal disease in his region and action being taken to deal with them. The same applies to vaccination campaigns. His help may then be sought in obtaining the co-operation of Chiefs and Emabandla.

In their day-to-day work junior members of the veterinary staff should be helped and encouraged to maintain good relations with the members of the public amongst whom they work. They should be made to realize that the Department depends on the co-operation of the general public for the efficient carrying out of much of its disease control. At all possible times, the Regional Veterinary Officer and his staff must project and maintain a good public relations image with the people we serve without

compromising any standards and principles of disease control surveillance and reporting.

10. **Livestock Extension Work**
    The Livestock Extension Officers in each Region are under the supervision of the Regional Animal Husbandry Officer , but Veterinary Officers should work closely with them. Veterinary Officers should also encourage their subordinate staff to carry out extension work whenever appropriate and when not engaged in their normal duties under the Stock Diseases Regulations as is expected.

11. **Veterinary Education**
    The Veterinary Training Center at Mpisi trains potential candidates for the posts of Veterinary Assistants and provides refresher courses for field staff and stock farmers. This does not absolve the senior staff of the responsibility for ensuring that their juniors are given instructions within their regions, possibly on office days (see 13 below), in order to advance knowledge and keep staff updated. The training team at Mpisi, as well as the Chief Animal Health Inspector at headquarters maybe available and willing to help if called upon. In this regard it is important for the Regional Veterinary Officers to develop annual training programs both for execution at regional level and at central level. Copies of these must be submitted to Headquarters both for information and support.

12. **Reporting (for details see section on Animal Health Division Reporting System)**
    The following reports are required to be submitted at specified periods as indicated:

    - **Veterinary Assistant's Monthly Report**
      Rendered monthly to the Animal Health Inspector. A pro-form is available which shows details of the month's work with a space for reporting any unusual occurrences. It must be emphasized to all junior staff that it is important to report all unusual occurrences as and when they occur during the month without waiting for the routine report.

    - **Animal Health Inspector Report**
      Rendered monthly to the Senior Animal Health Inspector.

    - **Senior Animal Health Inspector's Report**
      Rendered monthly to the Regional Veterinary Officer

    - **Regional Veterinary officer's Monthly Report**
      Rendered monthly to the Veterinary Epidemiology Unit.

    - **Veterinary Officer's Report (Meat Hygiene)**
      Rendered monthly through the Senior Veterinary Officer (VPH) to the Veterinary Epidemiology Unit.

    - **Veterinary Officer's Report (Laboratory)**

Rendered monthly to the Veterinary Epidemiology Unit.

- **Animal Health Division Monthly Report**
  Prepared by the Veterinary Epidemiology Unit and rendered monthly to the office of the Director of Veterinary and Livestock Services.

- **SADC and AU-IBAR Monthly reports**
  Prepared by the Veterinary Epidemiology Unit and rendered monthly to the Director of Veterinary and Livestock Services, who then sends its to the respective organizations.

- **OIE reports**
  Regular reports are the Six monthly notification reports due January and June, and the Annual OIE Questionnaire due February. Emergency reports are due when there is need to report an OIE listed disease as per guidelines detailed in section on **Animal Health Division Reporting System.**

13. **Office Days**

On one day a week, usually Friday, Veterinary Assistants must report at the Veterinary Office, which may be the regional Veterinary Officer's office or that of an Animal Health Inspector.

The purpose of this weekly meeting is:

- To report any unusual occurrences in Dip Tank areas
- To deal with any outstanding movement permits which may have reached the hands of Veterinary Assistants e.g. following completion of a movement and to deal with any queries arising there from
- For Veterinary Assistants to put into the hands of the police, through the Senior Animal Health Inspector, any prosecutions arising out of infringements of the Animal Disease Laws
- For briefing of Veterinary Assistants by superior officers on any matter of importance or interest

The Veterinary officer and the Senior Animal Health Inspector should separately visit at regular intervals all out of stations on office days, to deal with problems arising, to brief staff and carry out general supervision .As a guide at least one visit per month should be the aim.

14. **Prosecutions**

It is sometimes necessary to bring stockowners to court for infringement of the Animal Disease Laws.

The most usual infringements falling to be dealt with in this way are:

- Failure to dip stock. Stock Disease Regulations 11 and 14
- Failure to bring stock for vaccination. Stock Disease Regulation 16

- Failure to prepare organ smears or hand specified organs to the Veterinary Department's representative. Stock Disease Regulation 18 (4-6)
- Allowing stock movement without a permit. Stock Regulation 38

Prosecutions sometimes fail because cases have been insufficiently prepared before hand. Witnesses for the prosecutions are invariably junior members of the staff, who need guidance in preparing their statements of evidence. The police officer handling the prosecution may look for expert guidance by a senior member of the department and should be afforded every assistance. Senior staff should advance the spirit of cooperation with the police and others through the regional team meetings and other forums.

15. **Leave**

All staff, whether established or temporary, may apply for leave in accordance with General Orders. This lays down the maximum leave allowance for the various grades. All leave is subject to the emergencies of the service. At the same time every officer is required to utilize all his leave allowance in the leave year, (which commence 1st April) or forfeit it. If this is prevented by emergencies such as disease outbreaks the officer mat apply through his head of department to carry over the leave into the first three months of the next year.

It is the responsibility of the Regional Veterinary Officer or Head of section to ensure that staff leave is spread over the whole year, so that an undue proportion of the staff are not away at any one time, and that where forfeiture of leave occurs through the necessity of dealing with disease outbreaks that application for "carry over" is made on behalf of the officers involved.

An annual leave roster must be kept (see General Order No A35 (b)) at the regional or other local office. A leave card in respect of each officer is kept at headquarters.

All leave applications must be recommended by the officer's immediate superior and approved by his head of department.

16. **Useful documents for reference**

- Swaziland Government General Orders
- Swaziland Government Financial and Accounting Instructions
- Swaziland Government Stores Regulations
- Swaziland Government Sources of Supply for the Current financial Year
- Swaziland Government Stationery catalogue
- Swaziland Government Ministry of Agriculture Circulars
- Swaziland Government Establishment and Training Circulars
- Swaziland Government Treasury Circula

Principles and Guidelines of Veterinary Certification

1. A veterinarian should certify only those matters which are within his own knowledge, can be ascertained by him personally or are the subject of a supporting certificate from another veterinarian who does have personal knowledge of the matters in question and is authorized to provide such a supporting document. Matters not within the knowledge of a veterinarian and not the subject of such a supporting certificate but known to other persons, e.g. the farmer, the breeder or the truck driver, should be the subject of a declaration by those persons only.

2. Neither a veterinarian nor any person described in 1. above should be requested or required to sign anything relating to matters which cannot be verified by the signatory.

3. Veterinarians should not issue a certificate which might raise questions of a possible conflict of interest e.g. in relation to their own animals.

4. All certificates should be written in terms which are as simple and easy to understand as possible.

Certificates should not use words or phrases which are capable of more than one interpretation.**Certificates should be:-**

a. produced on one sheet of paper or, where more than one page is required, in such a form that any two or more pages are part of an integrated whole and indivisible;

b. Given a unique number, with records being retained by the issuing authority of the persons to whom certificates bearing particular numbers were supplied.

c. Certificates should be written in the language of the veterinarian signing them, and accompanied by an official translation of the certificate into a language of the country of ultimate destination.

d. Certificates should identify animals individually except in cases where this is impractical e.g. day old chicks.

e. Certificates should not require a veterinarian to certify that there has been compliance with the law of the European Union or a third country unless the provisions of the law are set out clearly on the certificate or have been provided to him by the issuing authority.

f. Where appropriate, notes for guidance should be provided to the certifying veterinarian by the issuing authority indicating the extent of the enquiries he is expected to make, the examinations he is required to carry out, or to clarify any details of the certificate which may require further interpretation.

g. Certificates should always be issued and presented in the original. Photocopies are not acceptable However;

- a copy of the certificate (clearly marked 'COPY') should always be provided to the authority by whom the certificates were issued.
- Where, for any good and sufficient reason (such as damage in transit) a duplicate certificate is authorised and supplied by the issuing authority, this must be clearly marked 'duplicate' before issue.

When signing a certificate, a veterinarian should ensure that:-

a. he signs, stamps and completes any manuscript portions in a colour of ink which does not readily photocopy ie a colour other than black

b. The certificate contains no deletions or alterations, other than those which are indicated on the face of the certificate to be permissible, and subject to such changes being initialled and stamped by the certifying veterinarian

c. The certificate bears not only his signature but also, in clear lettering, his name, qualifications and address and (where appropriate) his official or practice stamps

d. The certificate bears the date on which the certificate was signed and issued and (where appropriate) the time for which the certificate will remain valid;

e. No portion of the certificate is left blank, so that it could subsequently be completed by some person other than the certifying veterinarian.

f. Any stamps, signatures or initials must be applied carefully and placed so that text in the certificate is not obscured, preferably in the margin.

g. Manuscript entries on the certificate must be legible, preferably typewritten or handwritten in block capitals.

h. Manuscript entries on the certificate, the signature and stamp must be made in a colour other than black, unless directed otherwise by instructions on the certificate or in accompanying notes for guidance.

i. Manuscript entries on the certificate should not be stamped or initialled unless this is specifically requested by instructions on the certificate or in accompanying notes for guidance.

j. Alteration of manuscript entries must be avoided, but on the rare occasion that this is not possible, the alteration must be stamped and initialled.

k. Deletions of non-applicable pre-printed options or alternatives should be made before signing the certificate. Alteration or deletion of other pre-printed text must only be carried out in accordance with an official derogation or instructions on the certificate or in accompanying notes for guidance; such alterations or deletions must be stamped and initialed.

l. No part of the certificate should be left blank such that it could subsequently be completed by somebody other than the certifying veterinarian. Such spaces should be ruled off, but only stamped and dated after the last line of a separate schedule. Schedules may be 'fan folded' and stamped and dated.

INTERNAL NATIONAL AUDIT INSPECTIONS.

Internal national audit inspections are national inspections that try to find out the adherence of the official veterinary service to the laid down rules and regulations of the veterinary department. It seeks to address issues where non-compliance occur and how it can be improved and also to harmonize the veterinary services in the country.

1. Internal national audits will be done twice a year, in February and August.
2. Local internal audits shall also be done twice a year in April and November.
3. National audit team shall comprise veterinary officers and senior animal health inspectors.
4. The national audits will be done per region at a date set for it.
5. Audit team will audit animal health activities in the region which includes dipping programs, feedlotting activities, office records, resources available (both human and material), budget of region, integrity of equipment available, cordons and red line, movement controls in the country, vaccination programs, year plan activities, ports of entry, laboratories, meat inspections.
6. Audit team members shall use audit form that will guide them on what to look for.
7. Team will then make a report of its findings and make recommendations where necessary.
8. The audit reports will then be presented in a meeting called by the DVLS.
9. Findings of the audit teams will be compiled into one national report.

N.B. The purpose of audit inspections is to improve the delivery of the national veterinary service and to harmonize all activities in the different regions and sub sectors.

GOVERNMENT VETERINARY CLINICS

- Veterinary staff should attend to emergency clinical cases as soon as is possible in order to alleviate animal suffering and prevent animal loses through death or production losses and for early detection of clinical disease outbreaks.

- Non emergency surgical cases or procedures can only be attended to on appointments in such a manner to have minimal interference with regulatory veterinary work, and if possible it is advisable to refer such cases to the private veterinary clinics.

- Veterinary staff, other than veterinarians, who are listed in Schedule 3 of the Veterinary Surgeons Act Nº 8 of 1997 can attend to clinical cases, and are required to report such cases to the Veterinary Officer / Regional Veterinary Officer, and furnish the latter with the history of the cases and the intervention / treatments instituted. If possible they can communicate by phone to the VO / RVO for advice before advising the farmer or before treatments.

- Records of all veterinary clinical cases attended to should be kept at the respective offices i.e. Regional offices and sub regional offices. Such records should indicate the animal species affected suspected disease / condition, treatments / interventions, follow ups / outcomes and the charges to the farmer / owner of animals.

- Staff other than veterinarians are not allowed to prescribe veterinarian only prescription drugs. Please refer to the veterinary drugs and medicinal substances act or guidelines or the manual for more details.

- Charges for veterinary clinical work shall be based on the Swaziland Veterinary Association (SVA) suggested fee schedule.

- Where a notifiable disease is suspected, mileage may not be charged irrespective of the land tenure under which the case(s) belong.

QUARANTINE STATIONS

Quarantine stations are properties which are designed to prevent the incursion of livestock diseases which can be introduced by imported animals. The activity of quarantine stations is governed by the Animal Disease Act Nº 7 of 1965.

In terms of the code;
Quarantine station is defined as a facility under the control of the Veterinary authority where a group of animals is maintained in isolation, with no direct or indirect contact with other animals, in order to undergo observation for a specified length of time and, if appropriate, testing and treatment.

In Swaziland imported stock are expected to be quarantined in accordance to the act. There are different types of quarantines and the specification of each depends on the type of animal species to be imported. The ownership of quarantines are in two types:

- Government owned quarantines
    - Mpisi Government quarantine
    - Maphiveni Government quarantine
    - Sivunga Government quarantine
- Private quarantines

  These are quarantines that belong to individuals or private companies. They are approved by the state veterinarian before they can be approved for use. The specifications of such quarantines are guided by the type of stock to be imported and they have to have similar standards to that owned by the government.

Individuals who wish to have the services of the different quarantines are requested to follow the guidelines described for each type.

MPISI GORVERNMENT QUARANTINE STATION

I. GENERAL INTRODUCTION

The quarantine station is a property of the Government of Swaziland, situated at Mpisi in the Manzini region.

The main objective of this quarantine is the prevention of livestock diseases from entering the country.. It is for livestock intended for breeding. It is solely run and maintained by Government. Farmers who request the use of the quarantine facility are asked to sign an indemnity form.

All animals shall be quarantined for a period as prescribed in the animal disease Act Nº 7 of 1965. Animals shall not be released for any reason before their quarantine period is over, unless permision is given by the Director of livestock and Veterinary Services.

II. STAFF

- Quarantine Master- (Veterinary officer) (1)
- Senior animal Health Inspector / Senior Laboratory Technologist (1)
- Veterinary assistant
- Herders/Laboures

The laboures are stationed at the quarantine at all times. Their duty is to herd and look after the animals, reporting any abnormality which may be observed. They also will take instructions given to them form time to time. The rest are senior staff members and work on a supervisory role, under the leadership of the veterinary officer.

The Veterinary Officer reports to the Senior Veterinary Officer for field services, who reports to the Director of livestock and veterinary Services.

III. APPLYING FOR QUARANTINE

Owners wishing to quarantine animals from outside the country must first apply with the quarantine Master (Veterinary Officer) at Manzini at least a month before the intended date of quarantine. A Quarantine request form will be signed and an import permit issued. The quarantine request form is handed over to the Veterinary Officer on issue of the import permit. They will be asked to pay for the blue eartags which will be used on the imported cattle.

IV. PROTOCOL FOR RECEIVING ANIMALS

Owners must notify the quarantine Master, at least 24 hours before the arrival of animals through the boarder. When animals reach the quarantine station, there must be at least the following Veterinary Officers, Senior Animal Health Inspector or Veterinary Assistant. The following has to be checked before the animals are accepted:

a) ***Import Permit***- this must accompany the animals and must be a valid permit. The officer must sign at the back of the permit, indicating the number of animals received. A date stamp must also be put on this permit to indicate the date of receipt of animals.

b) ***Veterinary Health Certificate-*** animals must be accompanied by a veterinary health certificate, which has been signed by an official state veterinarian of the exporting country. On this permit the identities of the animals must be indicated, the seal numbers and vehicle registration number must be indicated. All the requirements of the import permit on diseased status of the animals must be clearly dealt with and mentioned on the certificate.

c) ***Seals-*** seals must be intact. The seal numbers must appear on the veterinary Health Certificate.

One of the senior staff members is responsible for checking that these three requirements are there.

Animals that are not complying with the three requirements shall not be accepted, and further steps shall be taken against the client in consultation with the Director of livestock and Veterinary services.

V. PROTOCOL ON ANIMAL HANDLING

(a) ***IDENTIFICATION***

Cattle shall be branded with CI brand on the left leg within 48 hours of their arrival. All imported cattle will be ear tagged with blue tags within 48 hours of the arrival. The left ear tagged with a primary ear tag and the right ear with a secondary ear tag.

Primary ear tag

Both the male and the female components of the ear tag will be the leaf type.

The male tag component will have a minimum size rang of 48mm in height and 55mm in width. This component will be displayed on the outside (caudal surface) of the ear displaying the marked surface and/or a bar code linked to the identity number.

The female ear tag component will have a minimum size range of 68mm in height and 55mm in width. This component will be displayed on the inside (cranial surface) of the ear displaying the marked surface.

Secondary ear tag

Both the male and female components will be button-type.

Both the male and female ear tags components will have a diameter not less than 25mm and not more than 30mm. the male and female ear tag components will be applied on the outside (caudal surface) and on the inside (cranial surface) of the ear respectively, displaying the marked surface.

(c) ***HEALTH STATUS***

From the first day of their arrival, rectal temperatures are taken twice a day (morning and afternoon) and these are recorded in a temperature book. This must always be done under the supervision of one of the senior staff members. Animals that fall sick during the quarantine period are treated, and this is recorded in the treatment book. Those that die a postmortem examination is performed and this is recorded in the treatment book. A full

report is prepared, which is then copied to the senior veterinary officer. The carcass is disposed by burning it in a ditch (isolated dumping site within the quarantine).
The animals that get sick just before their date of release are not released until the nature and the sickness has been dealt with. No extra cost will be borne by the farmer during this extended period.
At the end of the quarantine period animals are released with a stock-movement permit, without which animals will not be released. Owners will be charged for extra days that animals are not collected from the quarantine.

VI.RECORDS

All activities pertaining the running and handling of the animals shall be recorded. The following record books shall be kept:

a) Temperature book- all the daily temperature readings shall be recorded I this book as they are taken.
b) Treatment book- the dipping and treatment exercises shall be recorded in this book.
c) Supervisory book- this book shall be signed by any of the senior staff members when visiting the quarantine at every occasion. It shall reflect the date, time and comments.
d) Quarantine permit book- here shall be the import permit and health certificates.
e) Admittance book- here shall be the quarantine request forms.

The quarantine permit book and the admittance book shall be a responsibility of the Veterinary Assistant. These books shall be kept with the Veterinary Officer. The rest of the books shall be kept at the quarantine station.

PRIVATE QUARANTINE FACILITY

Besides the government quarantine facility at Mpisi, Maphiveni and Sivunga, the Local Competent Authority (LCA) may approve a facility for imported livestock quarantine purposes according to the principles laid down by the OIE Terrestrial Animal Health Code.

The approval follows this sequence

1. The importer submits an application for the establishment of a quarantine facility to the LCA
2. LCA explains to applicant the principles underlying the establishment of a quarantine facility and provides the specifications for such a facility.
3. The importer there after proceeds with the development of the required facility according to the specification provided the LCA
4. After completion, the LCA undertakes an inspection visit and if satisfactory approves the quarantine facility.
5. The LCA then issues a quarantine approval form which outlines the conditions expected to be met by the importer.
6. Subsequent to the approval, the LCA may issue a Veterinary Import Permit at the request of the importer
7. At the execution of the importation, LCA undertakes responsibility for receiving imported animals and ensures, that all animal health procedures related to imports are effected, including entry into the local Dip tank Cattle Register and identification (refer to Mpisi - Government Quarantine Station Guidelines).
8. The quarantine facility remains under the control and constant supervision of the LCA for the duration of the 30 days quarantine period.
9. Release of the animals from the quarantine is determined and effected by the LCA

All private quarantine operations are governed by the Animal Disease Act, 1965 therefore failure to comply with any specified conditions and requirements is subject to appropriate action in terms of the Act.

PRIVATE QUARANTINE STATION SPECIFICATIONS

An individual who wishes to have a private quarantine will be given the specifications below for its construction.

a. Boundary fence
   - At least 1.2m high double perimeter fence
   - At least 5m in-between the two fences
   - At least 2m between vertical poles
   - At least 8 strands of barbed wire (close together at the bottom) or veldspaner

b. Capacity
   - Floor area must be at least $14m^2$ per beast

c. Feeding and watering facilities
   - Appropriate feeding troughs as approved by LCA
   - Appropriate drinking troughs as approved by LCA

d. Handling facilities
   - Crush pen
   - Vertical poles, 1.5m apart
   - 4 lateral horizontal poles (70 cm apart) on the inside of the vertical poles.

e. Dipping equipment and material
   - Appropriate dipping equipment as approved by LCA
   - Appropriate dipping material as approved by LCA

f. Adequate feed supplies and water ad lib for the duration of the quarantine period

Records:

- The veterinary officer responsible for the supervision of the private quarantine must keep a record book which have the following records:
  - Name of the quarantine owner
  - Import permit number
  - Health certificate number
  - Entry date into quarantine
  - Release date from quarantine
  - Number of animals which arrived and their sexes
  - Inspections dates with activities carried on that day and comments

LIVESTOCK IDENTIFICATION

The Livestock Identification Act (13) 2001 at its commencement supersedes the provisions of any other law in existence, authorizing or requiring the identification of livestock.

Livestock Identification has assumed greater prominence at national, regional and international levels. It is of paramount importance particularly as regards animal disease traceability, the control and prevention of transboundary animal diseases, mitigating internal and crossborder stock theft and the traceability of stray animals to rightful ownership.

Priority livestock species for identification in the country is cattle with the rest of the livestock species to follow. Their identification is detailed in the document for Swaziland **Livestock Information and Traceability System (SLITS)** under the topic "Cattle Identification". However the individual animal identification system using the ear tag does not yet cover the whole country, therefore, during the transitional period other identification marks in use are as follows:

- The use of yellow eartags for cattle kept in Small Scale Fattening Units (SSFU) and the large scale feedlots. Giudelines for this is described under the topic "**Animal Identification for Feedlot Cattle Using Eartags"** found in section below.

- Animal identification using the cattle purchase note (CPN) number. Its described in the topic below.

ANIMAL IDENTIFICATION FOR FEEDLOT CATTLE USING EARTAGS.

These guidelines only apply to those cattle which do not have the individual identification eartag detailed in the document "Swaziland Livestock Identification and Traceability System. Those with the individual eartag no longer need to follow the protocol below.

- All feeder/feedlot cattle shall be individually ear tagged with an **official ear tag,** which shall be **yellow** for locally sourced cattle and **blue** for imported animals.
- The **official ear tag** shall be on the **left ear.**
- The **official ear tag** shall be of the 'male and female' type, and so an ear tag applicator is also required
- The ear tag shall have the following information:
  - Local cattle (Yellow Ear Tag)
    a) FRONT
    - ✓ Feedlot Registration Number (e.g. FM55)
    - ✓ Animal Identification number which will be of the following format:
      - MMDDXXL
        - ❖ MM = month of arrival
        - ❖ DD = date of arrival
        - ❖ XX = animal number on that particular day (to start from 1 on each new day)
        - ❖ L = for 'Local' animal

      NB: The full animal identification shall be prefixed with the feedlot registration number on written records (e.g. FM45-123105L = Animal is from Feedlot #45 in Manzini, arrived at the feedlot on December 31st, was the 5th animal to be acquired that day and is of local origin)

    - BACK
      - ✓ Dip-tank Number of origin
      - ✓ Kraal Number of origin
      - ✓ Owner's own ID number, e.g. SMI's CPN number (this is optional)

  - Imported cattle (Blue Ear Tag)
    - FRONT
      - ✓ Arrival Date
      - ✓ Animal ID number of the format:
        - MMDDXXI
          - ❖ All same as above

- ❖ I = for 'Imported' animal

NB: The Full animal ID shall be prefixed with the feedlot registration number on records

- ✓ Earliest dispatch date (90 days from arrival) – MM-DD

- BACK
  - ✓ Feedlot Number
  - ✓ Import Permit Number

- You are free to use the right ear for your own form of identification should you wish to do so.

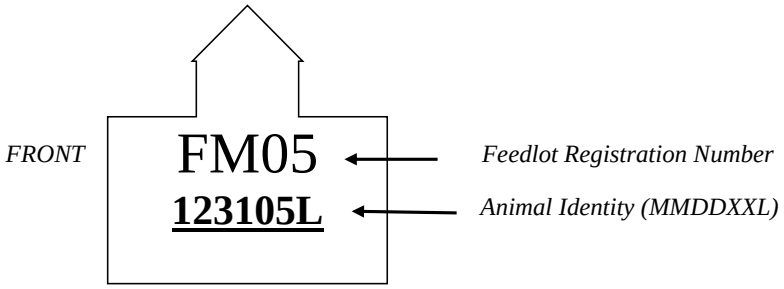
- Liase with your VA to for assistance with the official identification of your animals.

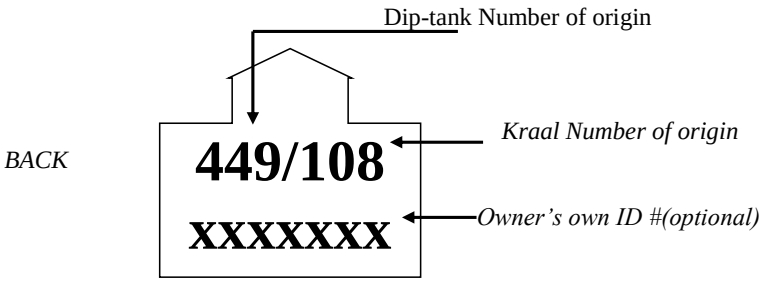
- Animals should be ear-tagged when they enter into the feedlot and should bear these tags throughout their stay at the feedlot till they get to the abattoir. Ear tags that fall off should be replaced with all the original information.

- The SG-1 Establishment (Export abattoir) SHALL NOT accept your cattle if they do not have the proper official identification for EU beef export purposes.

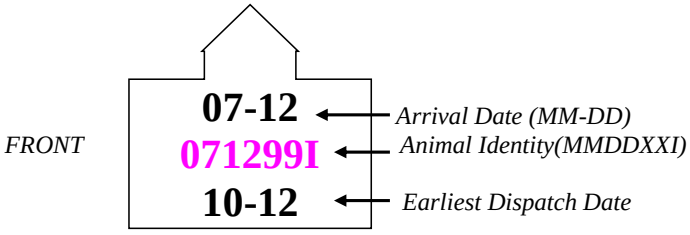
EAR TAGS FOR FEEDLOT CATTLE

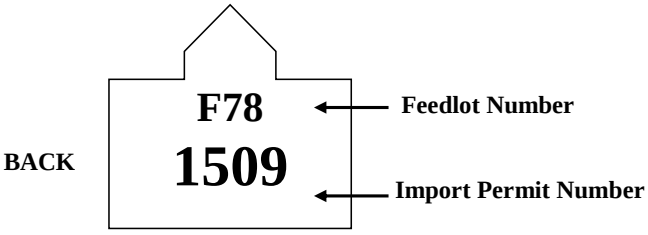
Local Animal





Imported Animal





ANIMAL IDENTIFICATION USING THE CATTLE PURCHASE NOTE (CPN) NUMBER

These guidelines only apply to those cattle which do not have the individual identification eartag detailed in the document "Swaziland Livestock Identification and Traceability System. Those with the individual eartag no longer need to follow the protocol below.

- This system of identifying cattle is meant for cattle that are purchased by the Swaziland Meat Industries (SMI) from farmers either on Swazi Nation Land or Title Deed Land (Farms) and then moved directly from the Dip Tank of Origin to the Export Abattoir.
- When purchasing animals for slaughter, SMI uses a Cattle Purchase Note (CPN) Book where the details of the diptank of origin, area location of sourced animals, number of cattle, diptank kraal number of origin, name of owner (seller) and the permit number used to move the animals are entered. The CPN book is like an invoice with serial numbers (which become the CPN numbers of the animals).
- Animals identified with a CPN are those that are not taken to the feedlots or small scale fattening feeding units (SSFFU) and Holding grounds.
- When purchasing an animal or animals from a farmer (or any seller), the transaction with that seller is entered in a single page of the CPN Book.
- An eartag is applied by the buyer (SMI) at origin and the CPN number is written at the front of the eartag.
- The diptank number of origin and the kraal number are written at the back of the eartag.
- The CPN number becomes the official identity of the animal for traceability purposes and it is endorsed at the back of the Stock Removal Permit (SRP) and the Pen Cards at SMI.
- Animals that are purchased from farmers and taken to Holding grounds (e.g. Mafutseni) maybe be given a CPN number by the buyer. However in this case, the animals are issued with a new identity number when they arrive at the holding ground just like all animals that are kept in feedlots. The CPN number in this case ceases to be the identity of the animal. It may be written at the back of the eartag but is only used by the Management of SMI for administrative purposes.
- Following the application of eartags with the CPN number, all other animal identification protocols are then followed.
- For traceability purposes from the abattoir, the CPN number links the animal slaughtered at SMI to the Stock Removal Permit and together with the SRP give details on the source of the animal(s), owner, area and date of movement to abattoir (and purchase at farm-CPN only).

IMPORTATION AND EXPORTATION OF VETERINARY CONTROLLED PRODUCTS

Provisions for the importation of livestock, specified animal and plant material/products as well as veterinary drugs and medicinal substances are embodied in the Animal Diseases Act No 7 of 1965 as amended.

Import and export regulations are regularly updated in accordance with guidelines of the Terrestrial Animal Health Code of the OIE.

IMPORTS

Prior to the importation of any veterinary controlled product into the country, a serialized Swaziland Veterinary Import Permit is issued stipulating tests and conditions the products and livestock must pass to be admitted into Swaziland. The source area will be specified on the permit.

Some specified products require other additional permits i.e. dairy products, wildlife and wildlife products, and certain animal feeds (concentrates especially).

Entry into the country is only permissible at designated ports of entry.

Veterinary Officials at port of entry should liaise closely with the Regional Veterinary Officers. At the ports of entry a register of all Swaziland bound products is kept.

Veterinary Officials should refuse entry of any veterinary controlled product from entering the country if the veterinary import requirements have not been complied with in full.

For livestock and livestock products

As a general rule, it is forbidden to import livestock and livestock products infected with or originating from areas /regions with prevailing outbreaks of one or more of the notifiable livestock disease(s) to which they are susceptible.

Livestock and livestock products arriving at the ports of entry from other countries must be accompanied by the import permit and a health certificate endorsed by a state veterinarian of the country of origin. These documents must be in their original form. These documents and the consignment being imported are inspected at the port of entry by a veterinary official, as provided for under Border Post Control Guidelines.

Imported livestock for breedingis /are placed in an approved quarantine camp for 30 days or longer under veterinary supervision as specified in import permit. Unannounced inspections by the Veterinary officer must be expected.

The importer must notify the Veterinary officers of the region of destination about the arrival of imported livestock at least 24 hours prior to the arrival, for purposes of receiving and breaking seals where applicable.

For veterinary drugs and medicinal substances

The importer is required to acquire a veterinary import permit from regional veterinary offices issued by a veterinary officer.

An import permit will only be issued for veterinary drugs and medicinal substances listed for importation and use in Swaziland and in accordance with specified "Regulations for Veterinary Drugs and Medicinal Substances Control".

At the port of entry veterinary officials will allow entry of drugs which are accompanied by a valid original veterinary import permit. The imported drugs should be listed on the permit.

For animal feed

The importer is required to acquire a veterinary import permit from regional veterinary offices issued by a veterinary officer.

Feed rations containing bone or meat meal of ruminant origin are prohibited for importation into the country.

EXPORTS

Swaziland requires the exporting party to procure an import permit from the veterinary authorities of the importing country except where an agreement subsists as with the EU/ACP countries. The veterinary officials of Swaziland will then comply with conditions set out in the import permit as regards laboratory tests, quarantine, livestock identification and other specified requirements, and subsequently the Veterinary Officers produce and issue appropriate Veterinary Health Certificates.

BORDER POSTS CONTROLS

1. Overview of Border Control Measures

On the arrival of the imported goods at the borders, the veterinary border control officials are to do the following:

- Check that all the original import permits from Swaziland have been endorsed and signed by the Department of Customs and Excise on the Swaziland side of the Border Post.
- Check the expiry date of the import permit and ensure it has not expired.
- Check for the presence and validity of the accompanying veterinary health certificate. This entails checking if the HC is authentic, check if it does correspond with the import permit (IP) and conditions laid thereof.
- Inspect the consignment for the compliance of the quantities applied for on the import permit or certified for on the veterinary health certificate. Make sure the consignment is the one specified on the import permit. Make sure that the import permit and health certificate are stamped and signed by the veterinary authorities of Swaziland and the exporting country respectively.
- In the case of live animals, make sure that the trucks are well ventilated, the floors are not slippery, bedding is provided, and that there are no protruding objects and that the animals are not over packed.
- Check that all the animals in the truck are physically healthy.
- In case of live animals and meat consignments, make sure that the trucks are sealed and the seal numbers are part of the Veterinary Health Certificate.
- Record every consignment in the appropriate register at the border noting the following:
    - Date of arrival of the consignment at the border
    - Validity of the documents
    - Compliance of the documents and the consignment
- All veterinary controlled products which include livestock and livestock products, animal feed, products of plant origin, veterinary drugs are only allowed to enter Swaziland through the designated ports of entry which are Ngwenya, Mahamba and Lavumisa.

Lomahasha and Mhlumeni ports of entry

At these two ports of entry, no animals and uncooked red meat are allowed to enter into the country except for returning recovered livestock. Products of plant origin are sprayed with an approved disinfectant (see above) before they are allowed to enter the country. Cordon guards are therefore instructed to;

1. Search all vehicles and persons entering the country from Mozambique for uncooked red meat
2. Prevent all live animals from entering the country
3. Disallow entry of all products of plant origin, which are not accompanied by a Veterinary Import Permit and other relevant documents i.e. Health Certificates and Phytosanitary certificates.
4. Treat all products of plant origin entering the country by spraying with approved disinfectant (see above)
5. Read directions on how to prepare the disinfectant solution on the Directions for mixing disinfectant sheet
6. Record all imports of plant origin and stamp at the back of the permit with an official veterinary date stamp
7. Record all incidences of disallowed imports.

- ***IF THERE IS NO IMPORT PERMIT, HEALTH CERTIFICATE OR BOTH THAT CONSIGNMENT MUST BE SENT BACK.***

2.0 Guidelines for Inspection of the Different Consignments

Please check for the following**:**

2.1 Animals for breeding and small stock

Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officer.

Original Veterinary Health Certificate signed and stamped by the veterinary authorities of the exporting country stating:

- The name and the address of the importer
- The reference number and issue date of Swaziland's import permit.
- The number and the identification of the animals being imported.
- The place of origin and the destination of the animals.
- The seal numbers
- The truck and trailer registration number.

2.2 Cattle for feedlot/ slaughter

Original import permits stamped and signed by the Ministry of Agriculture-Head Quarters.

Original Veterinary Health Certificate signed and stamped by the veterinary authorities of the exporting country stating:

- The name and the address of the importer

- The reference number and issue date of Swaziland's import permit.
- The number and the identification of the animals being imported.
- The place of origin and the destination of the animals.
- The seal numbers
- The truck and trailer registration number.

2.3 Game animals

Original import permits stamped and signed by the Ministry of Agriculture-Head Quarters.

Original Veterinary Health Certificate signed and stamped by the veterinary authorities of the exporting country stating:

- The name and the address of the importer
- The reference number and issue date of Swaziland's import permit.
- The number and the identification of the animals being imported.
- The place of origin and the destination of the animals.
- The seal numbers
- The truck and trailer registration number.

2.4 (Red) Meat and Meat Products

Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officer (Veterinary Public Health).

Original Veterinary Health Certificate signed and stamped by the veterinary authorities of the exporting country stating:

- The name and the address of the importer
- The reference number and date of Swaziland's import permit.
- The quantity and description of the products being imported.
- The place of origin and the destination of the consignment.
- The seal numbers
- The truck and trailer registration number.

2.5 Poultry Meat/ cuts and Eggs

Original import permits stamped and signed by the Ministry of Agriculture-Veterinary officer (Veterinary Public Health).

Original Veterinary Health Certificate signed and stamped by the veterinary authorities of the exporting country Vet stating:

- The name and the address of the importer
- The reference number and issue date of Swaziland's import permit.
- The quantity and description of the products being imported.
- The place of origin and the destination of the consignment.
- The seal numbers
- The truck and trailer registration number.

N.B. Exceptions to 2.4 & 2.5 apply to permits issued for personal consumption, in which case import permits are issued by veterinary officers at regional offices

2.6 Handicraft
Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officers

2.7 **Hay and Thatching Grass**
Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officers.

2.8 Veterinary Drugs and Pharmaceutical Products
Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officers.
Consignment is as stated in the import permit (type and quantities)

2.9 Animal Feed
Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officers.

2.10 Poultry and Birds as Bonafide Pets
Original import permits stamped and signed by the Ministry of Agriculture-Veterinary Officers accompanied by a veterinary health certificate issued by the exporting country.

Guidelines for stolen Swazi cattle which are recovered in neighbouring countries

An authorization to move Swazi cattle recovered in neighbouring countries should be sought from the regional veterinary officer from which the cattle originate.

The cattle should be positively identified as Swazi cattle i.e. should bear national eartags and/or diptank brand and Swazi shield.

The cattle should be only allowed subject to the following conditions:

1. Cattle are coming from an area where there are no quarantine restrictions for the control of bovine diseaseas.
2. The cattle are coming from an area where there has been no outbreak of FMD within 30km radius during the last 6 months.
3. The cattle have been examined by an authorized veterinary officer and found to be free from external parasites and any signs of contagious disease.
4. The cattle are conveyed in a motor vehicle and enter through an official port of entry directly to a government quarantine or other quarantine facility duly authorized there to by the Director of Veterinary and Livestock Services for a period not less than 21 days.
5. Whilst in quarantine the cattle are examined and subjected to such tests as may be deemed necessary for the control and prevention of cattle diseases by the responsible veterinary official.
6. The official veterinarian of Swaziland has been satisfied that the animals to be moved are Swazi cattle which strayed or were stolen into the neighbouring country.
7. The owner of the cattle shall be responsible for the cost of the transportation of the animals and any other cost incurred in the quarantine station.
8. The animals should be accompanied by the authorization letter which is duly signed by the official veterinarian of the neighbouring country.

Details of owner, diptank of origin, individual identification of the animal, place and date found in the neighbouring country and date stolen should be recorded.

VETERINARY CORDONS AND CHECKPOINTS

The duty of the cordon guard is to prevent the illegal movement of all cloven-hoofed animals and their products across a sanitary cordon. Domesticated animals that fall under this classification are cattle goats, sheep and pigs.

Duties along the cordon fence

1. Clear the cordon line by removing under grass and over grown shrubs to prevent fire from destroying the fence
2. Check and repair the cordon fence
3. Patrol the cordon line and report any incidences on line such as cut fence and evidence of livestock movements across the fence
4. Report all cases to Cordon Guard Inspector for action
5. Use radio to timely report to army regional headquarters for emergency army intervention
6. In cases whereby there has been movement of livestock or motor vehicles across the cordon fences the Cordon Inspector has to fill a form attached at the back and submit it to the SAHI.

Stock Movement across border fences form

The form enables the accurate record keeping of all cross border stock movement. It must be submitted to the RVO or VO as soon as possible. Any movement of stock from neighbouring countries into Swaziland should immediately be reported to SAHI and RVO without delay.

The form requires the following;

1. Date in which the form is completed.
2. Date and time of occurrence of incidence
3. Number and species of stock that were involved (if not known, estimate)
4. Direction of movement (Mozambique to Swaziland or vise versa)
5. Were fences cut and if so, by whom. Proceed to charge offenders (see chapter on prosecutions)
6. Was anything else moved across at the same time (e.g. motor vehicle)
7. Where did the incident occur (state portion of fence as well as area location)
8. Give name of Cordon guard on duty at the time
9. Is the owner of the animals known (if yes, give name, surname and wakuphi)
10. Give any other comments that you may have
11. Sign the form

Duties at check points
Allow movement of all cloven hoofed animals and their products from the Lubombo Protection Zone subject to the following:

1. They are accompanied by a valid livestock movement permit
2. Cattle are branded and have the national individual animal identification in the form of double ear tags
3. Record all live cloven hoofed animals and their carcasses

Directions for mixing disinfectant

NaOH solution

To make a 2% solution, mix 2 teaspoons (10g) of NaOH to 5 litres of water.

$NaCO_3$ solution

To make a 4% solution, mix 4 teaspoons (20g) of Na CO_3 to5 litres of water.

FOOT AND MOUTH DISEASE

1.0 Introduction

Foot-and-mouth disease (FMD) is an acute highly contagious viral disease of cloven-hoofed animals. This disease is characterized by formation of vesicles and erosions in the mouth, nostrils and teats, and on the skin between the hoofs. Once the erosions are seen, a combination of the following signs will follow:

- Acute lameness in a number of animals
- Salivation
- Fever
- A considerable drop in milk yield in a dairy herd.

FMD may cause serious production loses and is a major constraint to international trade in livestock and their products, therefore it is important to have means in place to control and eradicate the disease once it is in the country.

1.1 Legal framework and Administrative arrangement

1.2 Legal framework

Foot and Mouth disease (FMD) is a notifiable disease in Swaziland and remains a top priority disease condition as regards application of preventive and control measures.

The legal provision for control of Animal Disease Act 7/1965 with specific regulations applicable to FMD specified in the Stock Disease Regulation no. 60-69.

The Act and the Regulations provides for the close monitoring and prompt reporting o disease from dip tank and farm levels. Concurrently the legislation empowers the Regional Competent Authority to immediately effect provisional quarantine measures while securing further direction from the Director of Veterinary and Livestock Services. The legislation further provides for the control of the importation of livestock and specified animal and plant materials for purposes of preventing disease incursions into the country. In all circumstances, the guidelines of the Office International des Epizootics (OIE) Terrestrial Animal Health Code are invoked or used to augment the Animal Disease Act 7/1965.

1.3 Institutional arrangement

The Official Veterinary Services is responsible for the overall administration and supervision of animal health and welfare, disease control and prevention, diagnostics and surveillance as well as hygiene and sanitary requirements of export meat establishment.

Administratively the head of the Veterinary services is the Director of Veterinary and Livestock Services assisted by the Senior Veterinary Officer responsible for Field Services and for Veterinary Public Health, collectively constituting the central Competent Authority (CCA).

The Veterinary Service structure extends to the four regions of the country, at which level, Official Veterinary Officers are responsible for each Regional Veterinary Field services assisted by Senior Animal Health Inspectors and collectively constitute the Local Competent Authority (LCA). The LCA's function is the overall administration

management and coordination of all veterinary activities/ programmes in the region. The Veterinary Field Service at each region is administratively arranged into a number of sub-regions that are administered by animal Health Inspectors and Assistant Animal Health Inspectors who supervise Veterinary Assistants. The Veterinary Assistants are the officers who are in day to day contact with animals at dip tank level.

1.4 Routine Inspection

- Overtime the control, checking, dipping and inspection of cattle in Swaziland has been brought up to a high standard, that with emphasis on good inspection practice of all cattle on every occasion they are brought to the dipping tank it is possible to make an early detection of FMD.
- The importance of an early detection of FMD cannot be over emphasized.
- The Veterinary Assistant must organize his control at dip tank so that the cattle move one at a time over firm ground in good lit conditions towards the Veterinary Assistant (or Animal Health Inspector) in order to enable him/her undertake an effective inspection.
- The livestock movement permit system applied in Swaziland is an invaluable trace back mechanism should an outbreak of FMD or any other disease occur.

2.0 Strategy for control and eradication

On the receipt of a report of suspected FMD, it is essential that

- Contact between infected and susceptible animals is prevented
- Production of large volumes of the virus by the infected herd is prevented

This can be best achieved in the following way.

2.1 Before confirmation of FMD

2.1.1 Farmers

Animal owners should report to the nearest veterinary authority if they observe the following signs:

- Limping
- Drooling saliva
- Blisters in the mouth on feet and on teats of females
- Drop in milk production
- Loss of appetite and weight

2.1.2 Veterinary Assistants

When seeing the FMD clinical signs should:

- Make thorough investigations
- Report immediately to superior officer or directly to VO/RVO
- Revoke all movement permits
- Stop all activities that bring animals together such as shows, vaccinations and dipping
- Restrict movement of persons into affected area

- Instruct the owners of suspected, infected and in contact animals to hold them for further examination.

2.1.3 Veterinary Officer (Field services)

After observing signs of FMD he/she should

- Seek for second opinion from another Veterinary officer.
- Immediately notify the SVO-Field Services and the DVLS
- Institute a provisional quarantine in the infected zone.
- Revoke all movement permits.
- Institute a standstill order.
- Suspend all activities that bring cattle together.
- Restrict the movement of people in and out of the infected area.
- Phone the laboratory and epidemiology for sampling
- Disinfect clothing and shoes with NaOH after attending infected animals
- Advice local police and local administration of suspected out break

2.1.4 Veterinary Officer (Laboratory and epidemiology)

On receipt of a report of suspected FMD, it is essential that the Veterinary Officer

- Examine the suspected case without delay
- Take specimen of blood for serology, epithelium and vesicular fluid in phosphate buffer solution for typing
- Keep specimen in a refrigerator under lock and key
- Select the oldest cases and estimate the age of the outbreak.
- Send the specimens to OVI for confirmation.

2.1.5 SVO Field Services and DVLS

- SVO Field Services liaises with the DVLS
- DVLS sets up a strategic and an operational committee.
- DVLS convenes a meeting to sensitize the operational Committee

2.2 After confirmation of FMD

The OVI will send FMD results to the DVLS. If the results confirm FMD outbreak, the DVLS

- Informs the PS and minister telephonically and in person within 24 hours of confirmation
- Informs OIE, SADC, neighboring countries and trade partners within 24hours of confirmation
- Convene Strategic Committee and mobilize resources.

3.0 Strategic committee

- Estimate transport requirements for:
  i. Cordon
  ii. Inspectorate Staff
  iii. Fencing

iv. General – 4 wheel drive vehicles, 3 – trucks, Watercard are usually essential. Certain of the vehicles can be installed with radio communication equipment.

- Estimate equipment requirements.
- Arrange with DVLS for the gazetting of the area as FMD disease area
- Organise FMD coordinating unit in the area
  i. Accommodation (clerical, field inspectorate staff and equipment)
  ii. Sufficient map of the area
  iii. Appoint liaison officer
  iv. Appoint clerk assistant
  v. Accounts clerk
  vi. Storeman
  vii. Cordons
  viii. Instruct SAHI to sub-divide areas for the placing of inspectorate staff and draw up programs of work for each area
  ix. Appoint officers for fencing and construction of crush pens
- Informs the operational committee

4.0 Operational Committee

The committee will operationalise resolutions taken by the strategic committee.
The success of the committee will depend upon the effectiveness of physical control of animals and animal products. This will be achieved in the following way:

4.1 Stamping out

Stamping out will be the initial strategy implemented and will be applied throughout the eradication regardless of what other strategies are introduced. Animals that are considered to be most infective or at risk should be given priority for destruction.

Clinically infected animals are to be slaughtered first to reduce virus excretion. Infected pigs are slaughtered before cattle and cattle before sheep based on the volumes of virus excreted by these various species.

Remote areas

If FMD is diagnosed in some remote areas special control measures may be needed if logistical considerations (depending on situation and season) do not allow the rapid destruction and disposal of cattle. Consideration should be given to containing cattle until mustering is possible and conduct a movement control program to prevent subsequent dispersal of infection

4.2 Quarantine and movement controls

All Infected Zones will be quarantined with no movement into or out while strict surveillance and inspections are being undertaken. Quarantine and movement

controls will be imposed on appropriate risk enterprises to ensure any product from infected or in-contact animals is disposed of and suspect product is detained.

i. Restricted areas and control areas will be established to ensure the rapid and effective containment of the disease and that infected and free areas are well defined.
ii. The initial restricted area will be based on at least a 3 km radius around the Infected Zone. This will be modified as tracing and surveillance results become available It is essential that the Infected and Buffer Zones are included within the restricted areas.
iii. The Surveillance zone, at least in the initial stages, will be established based on the geopolitical borders, which are easily recognisable and understood by the international community. This distance will be reduced, if possible, as the epidemiological information becomes available.
iv. The minimum area will be a 10km radius, but the Restricted Areas can be included in the 10 kms.
v. Under restricted areas disease control measures animals will not be able to move outside of the area.
vi. People who exit a restricted area particularly those who have been on or close to Infected Zone should avoid contact with livestock for a period of three days in order to prevent the risk of mechanical spread of virus.

Zoning

While these boundaries are for disease control measures in the early stages of the eradication program, they will also form the basis of 'zoning' to assist in the strategy to maintain market access, particularly if eradication is prolonged. To be able to meet international zoning guidelines, which prevents the movement of product from infected to free areas, it will be necessary to include processing facilities within the restricted area.

4.3 Treatment of infected animals

Treatment is not appropriate for FMD under the country's policy for total eradication.

4.4 Treatment of animal products and by-products

- The treatment of most products and by-products for further marketing from Infected Zone is not permitted under any circumstances.
- These products must be disposed of by an approved method, preferably by burial on the property.
- Products such as semen and embryos may be permitted under special conditions or after treatment, with their movement subject to permit.

It will be necessary to treat product from Buffer Zone in the same manner as for infected zone while they remain under intensive surveillance but specified

products, such as meat and hides, may be permitted to leave the property for sale subject to treatment under OIE guidelines and permit, or after an agreed period.

4.5 Vaccination

While vaccination may be approved under certain circumstances its use does have the potential to extend market disruption and to mask clinical disease in partially protected animals.

Emergency vaccination may have limited application in the face of uncontrolled spread of the disease, but would need to be carefully considered with respect to a range of consequences including the final disposition of the animals.

If emergency vaccination is used during an outbreak then the following principles will apply to vaccinated animals:

- All vaccinates must be permanently identified;
- Vaccinates must be quarantined and subject to strict movement controls; and
- Vaccinates must be ultimately slaughtered out.

4.6 Tracing and surveillance

Rapid trace-back and trace-forward are both important to assist in effectively containing the disease. Tracing should:

- include all movements of susceptible livestock, animal products, vehicles, crops/grains and people.
- include consideration of potential exposure to windborne virus and possible contact with feral animals.

4.7 Surveillance

Surveillance is used to determine the spread of the disease so that an appropriately sized restricted zone can be declared, and to determine FMD-free areas. This activity will involve

- inspection of stock,
- investigation of reports of suspect disease; and a
- serological survey.

The level and direction of surveillance will be driven by the epidemiological information being collated.

4.8 Decontamination

As an integral part of the eradication plan and to contain the spread of the virus the following products need to be decontaminated

- hay,
- hides
- wool
- equipment
- buildings and roadways on infected premises

If items cannot be adequately decontaminated then their disposal will be necessary.

4.9 Wild animal control

It is essential that wild animals be considered in the eradication and control plan for FMD.
Assessment of the risks posed by wild animals will require information about

- density and distribution
- social organisation
- habitat
- perceived contact with domestic species
- strain of FMD virus
- length of time wild animals could have been exposed to the virus.

This information will then influence the required level of measures to be applied including:

a. containment
b. survey and surveillance
c. population reduction.

Winding up the campaign
It is important that all equipment should be accounted for and suitably stored to prevent damage. All record must be carefully filed for reference when required. A detailed report on the campaign must be submitted to headquarters.

CONTROL OF BOVINE TUBERCULOSIS

Introduction

Bovine tuberculosis is a specified disease under the Animal Diseases act No 7 of 1965 and in addition to general animal disease control measures the following specific measures shall apply;

a) All stock suspected to be suffering from tuberculosis may be submitted to the tuberculin test by the Director of Veterinary Services
b) All cattle found to be suffering from tuberculosis shall be branded by the Director of Veterinary Services with a 'T and Crown' and may be slaughtered within a period of 6 months from the date on which the disease was diagnosed.
c) Animal viscera showing lesions of tuberculosis shall be buried or otherwise destroyed
d) Milk of cows suffering from tuberculosis of the udder shall not be given to other animals unless it has been boiled
e) No stall which has been occupied by an animal suffering from tuberculosis shall be used for any other animal until the said stall has been disinfected.

Intradermal test

- The intradermal test for cattle is based on a specific reaction following the administration of bovine PPD tuberculin.
- For a ***single intradermal test*** – Bovine tuberculin is inoculated in an area of skin on the left side of the neck halfway between the juncture of the head & neck and the fold in front of the shoulder, and halfway between the top and the bottom of the neck.
- For the ***comparative intradermal test***, where both bovine and avian tuberculin are used- The bovine tuberculin is inoculated as described above and the avian tuberculin is inoculated a hand's breath cranial to the bovine tuberculin site.
- Inoculation sites must be shaved (an area of approximately 4x 4 cm)
- The skin thickness is measured with a caliper
- The required dose (0.1ml) of tuberculin is then injected intradermally using a McLintock syringe
- If comparative test used avian tuberculin is injected at the cranial site – the site nearest to the head and bovine tuberculin on the site nearest to the shoulder.
- The result of the test is read 72 hours after the injection of the tuberculin.

Caudal Skin fold method

- For the 'tail fold' or caudal skin fold method double strength bovine PPD tuberculin is used
- The method yields results comparable to the cervical test method described above.

- In problem herds containing anergic animals, simultaneous use of both the caudal method and the cervical method improves the results.

Use of Comparative test

The comparative intradermal test is believed to give a definite result regarding the presence or absence of tuberculosis caused by *Mycobacterium bovis* in a herd. It should be the method of choice under the following situations

- If the herd is being tested for the first time
- If the herd's tuberculosis status (history) is unknown
- When problems have been experienced with the interpretation of the results of a previous test
- If non specific reactions are suspected

Use of Single test

The single intradermal test is generally cheaper and should be the method of choice only when the herd is historically known to be negative (from previous tests).

Interpretation of results

- The skin reaction is interpreted according to the test used.
- Generally an increase in 4mm and more in the bovine tuberculin reaction is regarded as positive.
- In the comparative test a difference of 5mm between bovine and avian tuberculin is considered positive for a previously negative herd.
- For a historically positive herd (established positive from previous tests) a comparative test difference of 3mm between bovine and avian tuberculin is considered positive.
- However, if the swelling on the injection site of the avian tuberculin exceeds that of the bovine tuberculin irrespective of the size of the difference that animal is considered negative.

Herd status	Test performed	Increase greater	Median	Increase smaller
Negative Herd	Bovine tuberculin alone	Suspect	>6mm<	Negative
	Comparative test	Suspect provided reaction to bovine tuberculin is 4mm or more	>+3mm< (Bovine minus avian reading)	Negative
Positive herd	Bovine tuberculin alone	Positive	>4mm<	Negative or suspect
	Comparative test	Positive (provided the reaction to bovine tuberculin is 4mm or more)	>+3mm< (Bovine minus avian reading)	Negative or suspect

In addition to the increase in the thickness of the skin fold other reactions include the following

- Swelling appearance – round, flat, circumscribed or diffuse
- The swelling may be red or blue
- The swelling may be edematous and there may be signs of necrosis
- The animal may experience systemic reaction such as shivering, ruffled hair and listless.

The inoculation sites must be palpated before measuring

The palpation may reveal the following

- Consistency of the reaction
- The presence of edema
- A local increase in skin temperature
- Pain
- Adhesions between the skin and the subcutaneous tissue.

Regional and other superficial lymph nodes must also be palpated

- Especially, the prescapular and supramammary lymph nodes may be swollen.

Other factors to be considered

- The interpretation of the tuberculin test is mainly on herd bases rather than individual animals. It is also important to consider all variables that might influence the final diagnosis, especially herd history.
- Recently infected animals (6wks to 3 months) produce a large obvious reaction whilst alder animals that have been infected for a long time (>6months) will be less sensitive.
- Desensitization may occur in TB infected cattle immediately before and after calving resulting in false negative reactions.

Control Programs

Generally, non-of the programs can be successful if the following **conditions** are not met

- Full control of livestock movement, using permit system
- Compulsory identification of the cattle
- Payment of compensation either partially or in full
- Compulsory testing of the animals periodically and establishing disease free whole areas.
- Sufficient funds and trained personnel to fulfill the task.

1. **Accreditation program**

- A voluntary program, for the benefit of those farmers committed to disease freedom especially stud breeders and especially large dairy establishments.
- Cattle are subjected to intradermal testing at three months intervals until two consecutive negative results are obtained.
- Official tuberculosis –free certificate is then issued.
- Accreditation is renewed every 12 months, upon retesting with negative results.

2. **Annual testing program**

- Dairy animals are tested for tuberculosis annually, between May and August.
- The test is run concurrently with brucellosis testing.
- Farms that are not closed herds farms are subjected to the comparative intradermal test.
- Closed herds can be subjected to a single intradermal test (tail fold or cervical)
- Animals found positive to the test are condemned
- Farms found infected then move to the infected herd program immediately.

3. Infected herd program

- When infection is confirmed in a herd, whether as a result of tuberculin test, necropsy, meat inspection etc, that infected herd is immediately placed under quarantine.
- The animals are subjected to repeated tests until that herd is found negative on two intradermal tests done 90 days apart.
- Positive animals are branded 'T and crown' on the right hindquarter and are slaughtered in approved abattoirs within a period of six months from the day of diagnosis.

4. Diagnostic testing program (for export services)

- Under this program animals are tested for tuberculosis at the request of the owner and/ or veterinary officials.
- This may be for export purposes or other immediate trade related purposes or to confirm suspected infection.
- All or the selected animals are subjected to either the comparative intradermal test or the single intradermal or tail fold test.
- In this situation individual animal results are just as important as the herd results.

BRUCELLOSIS CONTROL

Brucellosis is a bacterial disease of both animals and humans caused by the Brucella group of organisms.

Brucella abortus causes abortion in cattle and people become infected when they come into contact with infected excretions, fetuses, fetal membranes, carcasses and ingesting infected un-pasteurized milk.

Brucella melitensis causes abortion in goats, sheep and causes Malta fever in humans. Cattle may be infected when they live in close contacts with infected sheep and goats. The disease was introduced in 1997 in this country. Melitensis is a much more serious zoonosis than abortus.

Other Brucella species are **B.ovis**, which causes epididymitis in rams and infertility in ewes. **B suis** affects mainly pigs but is also zoonotic. **B.canis** affects dogs and **B.neotomae** affects rats. All these do not occur in the country so far.

DEPARTMENT'S OBJECTIVES

The overall objectives of the Department of Veterinary Services on Brucellosis is to be able to detect the disease early, efficiently combat and control it and eventually eradicate it. ***One dip tank/ herd at a time until the whole country is free of the disease***.

LEGISLATION APPLICABLE TO CONTROL

The principal legislation is the Animal Disease Act No.7 of 1965 and all its amendments. Specific regulations to Brucellosis are covered in regulations 47(a) for caprine Brucellosis and 48 for Contagious abortion.

IMPORTANT PRECAUTIONS

SAMPLING AND TESTING

1. Gloves and facial masks should be worn when sampling.
2. Specimen must be securely parceled in leak-proof containers, which are then sealed in a robust plastic bag
3. Sufficient absorbent material around the container to prevent leaking in case the container is damaged
4. All parcels containing such specimens must carry a label warning that the parcel contains biological material and must be handled with great care
5. Samples may include fetal organs such as liver and lymph nodes, the placenta, milk vaginal mucus or uterine discharges

VACCINE HANDLING

Strain 19-brucellosis vaccine can cause disease in humans if not handled properly. Self-inoculation by injection or contact with mucous membranes can lead to Brucellosis. If it occurs victims should seek medical attention immediately. Vaccine handling involves:

1. Always keep it cool and out of direct sunlight
2. Use of separate syringe for S19 vaccination where possible disposable syringes are preferred
3. Don't use the vaccine after expiry date
4. Take note of the number of doses per vial to make sure you use the correct number of doses
5. Vaccinate the correct dosage subcutaneous

BLOOD SAMPLES

- Red top vacutest tubes must be used and half filled with blood
- Label tubes appropriately and fill laboratory forms
- Blood samples from animals belonging to different herds must not be placed in the same pack

MILK SAMPLES

- Milk samples should be collected in tubes containing formalin or bronopal preservative and must reach the laboratory within 48 hours
- Milk samples must be collected from the can or bulk milk tank after its contents had been well agitated

NATIONAL CONTROL

BEEF CATTLE

1. INNOCULATIONS OF FEMALES

- Only S19 Brucella Vaccine is allowed
- The use of the vaccine is limited to a single inoculations of heifers between the ages of 4-8months
- Repeated use of S19 in the same animal is not allowed (gives no better immunity and results in false positive reactors)
- Inoculations of heifers below 4 months and above 8 months is not allowed
- Inoculations of heifers outside the specified age is carried out by Veterinarians in specific situations. Such situations are reported promptly to the DVLS.
- No male animals of any age may be inoculated with S19 as it causes orchitis and infertility in males

2. INNOCULATIONS OF ADULT COWS

To be carried out:

- By veterinarians when the prevalence is higher than 2%
- Where the value of breeding stock is much higher than slaughter value
- Where the stock has high genetic value
- Such inoculations should be reported promptly to the DVLS
- Adult cows can only be inoculated with a reduced dose of strain 19 *Brucella abortus* → each cow should be dosed with 1/20th of the standard subcutaneous dose of vaccine.
- Vaccination eliminates clinical disease and reduces exposure of infection to susceptible cattle

3. CONTROL OF MOVEMENT

1. Farms /herds that are known to be infected should be constantly under quarantine No movement of animals that are known to be positive or not tested should be allowed
2. Positive animals should only move to the slaughter house
3. Negative animals can only move once they have tested negative to laboratory tests

DAIRY CATTLE

VI) ANNUAL TESTING

- All cows and 18 months old heifers must be bled and tested serologically between June and July
- Positive reactors must be disposed off

AVIAN INFLUENZA IN ANIMALS

INTRODUCTION

Avian Influenza is a disease of birds caused by a virus, the Influenza A virus. It is a dangerous disease since it can kill all poultry on a farm. It can also spread rapidly to other farms and to the whole country. Some types of avian influenza can also make humans sick and even die.

The disease affect chickens, ducks, geese, turkeys, guinea fowl, quail, pheasants, pigeons and numerous wild birds may all be affected by these viruses. Depending on the virus or on the host, they will or will not show clinical signs.

ACTIONS TO BE TAKEN BY OFFICIALS WHEN THERE IS SUSPECT MORTALITY OR SUSPECT CASE(S) IN POULTRY OR IN WILD BIRDS

In poultry production, the death of few birds can be a regular problem. Poultry may die for several reasons, including diseases. When there is high mortality observed avian influenza should be considered with the following guidance (also see below in case definitions):
When there is sudden death of poultry on the farm (this means that chickens were healthy and they die suddenly in less than 24 hours) and there is a daily mortality of over 5 % of the flock during a few days.
Only the laboratory can confirm that it is or that it is not avian influenza.

Any case of suspected avian influenza, Newcastle disease (ND), Infectious laryngotracheitis (ILT) and acute fowl cholera should be properly investigated by such trained officials to ensure safety of investigators and farmers as well as ensuring confirmation of the disease.

- On receipt of a report of avian influenza suspicion it is important to get a full account of events including species affected, clinical signs observed, numbers sick and numbers dead, ND/ILT vaccination history, level of biosecurity in farm/homestead, reports of similar disease or deaths in area, etc.
- A decision is then made to visit the site to verify the report taking note that you have strong suspicion you're dealing with avian influenza.
- **STOP!!** When making a decision to investigate consider notifying higher authorities about your suspicion. This will ensure your proper guidance to avoid unnecessary omissions or mistakes. At this point the office of the director may send an investigating team.
- If there is strong suspicion you're dealing with avian influenza carry appropriate virucidal disinfectants, post mortem kit/instruments and protective gear (appropriate suits/gowns, washable boots preferably gum boots, hand gloves, face masks and goggles as well as sample collecting and storage/transport equipment.

- To come up with a suspect cause of disease use disease history and management information gathered plus examination of birds and environment including housing conditions at site.
- If suspecting avian influenza from reporting history or at site any post mortem examination can only done by a veterinarian, unless otherwise any other official is instructed by a qualified veterinarian. Be very prepared for a post mortem of an avian influenza suspect.
- **STOP!!** Once you have all reasons to suspect that your investigation leads you to suspect avian influenza notify the Director of Veterinary and Livestock Services, the Deputy of the Senior Veterinary Officer, or the Regional Veterinary Officer whilst on site.
- Consider types of diagnostic samples and method of preservation for speedy delivery to the laboratory (see below). No
- Record all necessary details about the event which include date of onset, incoming birds, travelling history of owner/farm workers, history of similar problem in area or surrounding areas, numbers dead and numbers sick, ages and housing of birds, vaccination history including vaccines, method of application and dates, types of samples taken and dates, name of official, name of farm/farmer and diptank area of farm/homestead.
- Disinfect and change clothes before leaving farm making sure you do not spread the infectious agent through clothes and shoes, as well as tyres of a car.
- In any case do not leave farm without notifying the Director of Veterinary and Livestock Services/Deputy DVS / Senior Veterinary Officer (Field Services) or your Regional Veterinary Officer (more especially if the disease caught you by surprise. These officials will give further direction.
- Notify authorities of all findings by earliest possible means making sure samples are submitted and a full report prepared. Veterinarians should submit emergency disease report forms to head office and to the Epidemiology Unit within 24 hours of investigation or receipt of a report from their officials.
- Officials have to follow guidelines from the emergency response plan (or contingency plan) on how to deal with birds, products and farmers at site, as well as giving appropriate advice to the farmers.
- The office of the DVLS will be required to provide emergency notification to the OIE within 24 hours of discovery of disease.
- Specific actions necessary from the different role players within the Department of Veterinary and Livestock Services follow below in the cascade of actions and are elaborated in the Integrated National Action Plans on Avian and Human Influenza.

Cascade of actions that defines actions to be taken by officials on suspicion of avian influenza (emergency disease reporting pathway as outlined in the avian influenza contingency plans)

- Farmer /member of general public observe abnormally high mortality in birds/ suspect disease and inform a veterinary official/Police/District or Regional Officer

- Actions to be taken by the Veterinary official/Police/District or Regional Officer
  - Immediately informs the Veterinary Officer (VO) by all expeditious means
  - Immediately institutes provisional quarantine
  - Immediately restrict movement of people, vehicles, animals and other inanimate objects from suspected/infected farm.

- Actions to be taken by Veterinary officer
  - Investigates and suspect NAI
  - Informs DVLS/SVO telephonically
  - Institutes provisional quarantine measures
  - Informs VO Epidemiology and VO Laboratory after contacting DVLS/SVO
  - Takes samples for confirmation in consultation with VO laboratory

- Actions to be taken by DVLS/DDVS/SVO
  - DDVS/SVO informs DVLS immediately, facilitates investigation and confirmation of the disease
  - DVLS notifies the Principal Secretary and Minister telephonically and/or in person
  - DVLS notifies the OIE, SADC, AU-IBAR, neighbouring countries and trading partners
  - DVLS sensitizes the national steering/strategic committee
  - DVLS commissions the initial containment teams
  - DVLS contact reference laboratory to get confirmation of disease (results)

- Actions to be taken by DVLS after laboratory confirmation
  - Informs PS and Minister
  - Informs OIE, AU-IBAR and SADC, neighbouring countries/trading partners
  - Informs the National Steering Committee
  - Convenes Strategy Implementation Committee meeting to formulate strategy
  - Convenes National Steering Committee meeting and mobilizes resources
  - Submits weekly reports to OIE.

CONTROL ACTIVITIES

Activity objectives

When an official observe suspect mortality on poultry, he/she should be guided by the following objectives in the activities he/she performs:

- To avoid contamination of other farms.
- To avoid infection of human beings.
- To report immediately to authorities
- To write down information about the event.
- To eliminate the virus from the infected farm as soon as possible (only after guidance from authorities).

The farmer is obligated by law to report to the official (animal health or poultry extension or district officer or police) immediately the abnormal deaths or suspect sickness is discovered.

Please note:

- Never throw the dead birds in any water (river, pond, and dam)
- Never eat the birds.
- Farmers should immediately put some of the dead birds in a bag for veterinary officials to take some specimen samples from these birds.
- After officials have come or after one day, birds must be destroyed as described below.
- ***Burning:*** Place all the birds and objects in a recipient, add some fuel, and light a fire.
- ***Burying:*** Dig a hole (far from a well, pond, animals) in the ground, put some quicklime at the bottom and on the borders of the hole; put all the birds and objects in the hole; cover with quicklime; cover with earth.

What to do with sick birds?

- Farmers should be advised not to eat sick birds.
- Isolate sick birds in a secured area with no contact with any other animal.
- Veterinary officials will take specimen samples from these birds.
- If there is sufficient belief the birds have avian influenza and after getting appropriate clearance from authorities the birds will then be destroyed immediately.
- Culling suspect cases: people who do the culling should be in good health and protect themselves (with mask, glasses, gloves, boots, etc.) from the start of the culling until they finish cleaning the area and equipment used.
- In small-scale poultry production, there may be no other method available for culling than to do it with your hands using large scissors to dislocate the spinal cord from the base of the brain. Decapitation using a knife may be opted for but is very messy and blood must be collected and dealt with properly.

What to do with healthy birds?

- It is the decision of the authorities to cull apparently healthy birds if stamping out is followed. Culling these birds will be done immediately as the Director prescribes.
- Before and during culling a total movement ban is enforced.

Cleaning and disinfection of premises and equipment

The virus may be present on many objects, materials and areas that have been in contact with the infected poultry or that have been used during the observation, the culling and the destruction of the animals.

Plastic bags, animal feed, wooden baskets / walls, etc. can be easily burnt. Manure can be composted or buried.

Poultry building whether made with bricks or wooden must be:

WASHED => BRUSHED => SPRAYED with disinfectant.

The ground where poultry walked should be cleaned (with a broom) then sprayed with disinfectants.

Quicklime is the cheapest disinfectant and should be used for ground and poultry housing.

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Time before restocking with birds

Cleaning and disinfection should be repeated 1 or 2 weeks after the first cleaning.

At least 21 days should be spent before bringing new poultry.
Restocking should be properly guided by authorities in the veterinary department.

Protection of human beings
The avian influenza virus can be transmitted to human beings mainly through the faeces or by inhaling the virus that are spread by the infected birds when breathing.
During avian influenza outbreaks pregnant women and the young children should avoid contact with infected animals.
Sick or dead animals should never be eaten, even if avian influenza is not strongly suspected.
Wash hands with soap and water after touching an animal or their products (meat, eggs).
Once avian influenza is declared animal health officials and all primary and secondary industry personnel handling live birds and preparing birds for home consumption or for restaurants should protect themselves when in contact with poultry. They should at least wear face masks and if possible gloves and goggles. Clothes, shoes, and sandals should be washed frequently and as when necessary.

THE DISEASE (refer to emergency preparedness plan for more details)

Clinical signs of avian influenza:
Avian Influenza is very similar to Newcastle disease.
*You must think **avian influenza!!!** When you see high mortalities and rapid death in poultry and in wild birds! However just because these signs are seen does not necessarily mean there is Avian Influenza.*

The clinical signs are very variable and influenced by factors such as the type of the infecting virus, the poultry species affected, their age, other diseases that may be present and the environment, etc.
One of the most common clinical signs seen is change of combs and wattles which become dark red to blue and swollen and may have pin-point haemorrhages at their tips. The shanks of the legs may also have these haemorrhages and may turn bluish.
The mortality rate varies from 50% to 100%: at least half of the poultry die.
In turkeys, the disease is similar to that seen in layers, but it lasts 2 or 3 days longer. Occasionally, eyelids and sinuses are swollen making the appearance of a swollen face.
Avian influenza infected domestic geese and more especially ducks normally excrete the virus without showing any clinical signs or lesions. If signs appear may include signs of depression, little food intake and diarrhoea as similar to those in layers, though frequently associated with swollen sinuses.

Pathology:
In birds that die very quickly there could be general dehydration and congestion of internal organs and muscles.
In birds that die less quickly pinpoint haemorrhages are seen in most organs throughout the body. There is extensive subcutaneous oedema, particularly around the head and hocks. The spleen may be enlarged, dark and hemorrhagic.

Differential Diagnosis:
Highly Pathogenic Avian influenza may be difficult to distinguish from other diseases that cause sudden high mortality like Virulent Newcastle disease, Duck Plague, Acute Poisonings; and also from other disease that cause swelling of the combs and wattles like Acute fowl cholera and other septicaemic diseases, bacterial infection of the comb and wattles.

Laboratory diagnosis:
Avian Influenza is difficult to differentiate from other diseases without the laboratory tests, but the official should not wait for the test results before implementing some control measures (explained further in this manual).
Veterinarians or paraveterinarians trained in sampling techniques should be the ones doing the collection of specimens.

Treatment
There is no treatment for avian influenza in birds.

Vaccination
Vaccines against Avian influenza exist and are being further developed.
The decision to make these vaccines available in Swaziland and how they will be used can only be taken by the Director of Veterinary and Livestock Services.
Vaccination is only one method for prevention and control, and other methods and principles still have to be applied even when vaccines are available and used.

How Avian Influenza can affect an animal?
The virus may enter in a poultry farm through various ways:
Purchase or gift of one or more domestic birds, even if not sick.
Human beings (family members or relatives, staff, veterinary/animal health officials, middlemen, people who deliver animal feed, etc.) coming to the farm after having been on another farm, in a live bird market, at a slaughterhouse, in a laboratory, etc. that was infected or contaminated.
They may carry the virus on their clothes, shoes, boots, vehicles especially wheels, on the egg crates, etc.
Purchase or gift of other animals (pig, for example) coming from a farm with infected poultry.
Dogs bringing dead birds from an infected farm.
Wild birds during their migration from one area to another. They may contaminate the farm through close contact with domestic birds or through their infected faeces dropped on the ground or in water ponds.
Any domestic poultry that comes into contact with contaminated water, infected manure.

BIOSECURITY: WHAT IS IT, AND WHY IS IT IMPORTANT?

- Biosecurity is a way to avoid contact between animals and disease causing microbes
- Biosecurity is common sense.
- Biosecurity may not cost too much money; it is mainly good practices to use in a farm which can be applied in large-scale animal production units or small-scale animal production units as well as backyard poultry.

For small-scale poultry production, biosecurity consists of various, simple, sometimes zero-cost measures that will keep microbes away from poultry and/or keep poultry away from microbes.
If you cannot apply biosecurity in cases where poultry are rooming outside, you should make sure that these animals are kept separated from other poultry.
Different measures of biosecurity can be applied in different circumstances for example, if there are outbreaks of Avian Influenza close to your farm, you must take stronger measures than in normal time.
Biosecurity will help to protect a farm against every disease, not only avian influenza.

Dealing with poultry droppings or poultry manure to prevent spread of disease
Viruses can stay alive in the manure for many weeks. If the manure is spread too quickly in the fields and thus composting manure is necessary. Composting enables killing bacteria and viruses and also increase the quality of the manure for fertilization.

Method of composting:
- Take the manure away from the poultry everyday.
- Store the manure in a plastic bag or on the ground under a plastic, or in a hole dug in the ground
- When you have 10 kilograms or more, add some water to the manure (2.5 litres for 10 kilograms of manure)
- Add some quicklime (half a kilogram for 10 kilograms of manure)
- Turn twice a week for the first 2 weeks and then once a week. The length of time required for decomposition is extremely variable from compost to compost (depending on volume, particle size, frequency of turning, moisture content, ambient air temperatures, etc).
- The compost is ready when the temperature has come down, when the colour is dark brown and when it has a humus smell.

Important principles to remember in maintaining good farm biosecurity
- Once Avian influenza is in the country it is always safe to assume there is almost never a time when the risk of getting the disease in any farm is zero.
- Even at the moment when the disease is not in the country it is important to know that every country has a certain risk of getting the disease and therefore precautions at borders, in handling imports of poultry and poultry products, at farm and in handling diseases similar to Avian influenza needs to be taken at every level.
- Always consider that avian influenza may come!

- Farmers should take responsibility to keep their poultry and their farms free of disease!
- By following some basic principles, a farm will remain free of disease. These principles are:

PRINCIPLE No. 1 Keep the poultry in a protected environment.
Avoid contact between the poultry and any other birds which may be infected including wild birds. Keep sick birds in an enclosed area separated from the others. When working with poultry, always start by the healthy flock and then go to the sick flock.

PRINCIPLE No. 2 Control the entries into the farm.
Control visitors from coming directly into contact with animals by having a foot dip.
Wash hands with soap before and after you take care of the animals (use disinfectant if available).
Officials and farmers should change clothes when entering farm especially from another farm.
Manure from another farm should have been properly composted for at least 3 weeks.
New entries should be quarantined in a closed and separate place with no contact with other animals for at least 2 weeks.
Farmers should avoid bringing poultry from the market back to the farm. In case this happens poultry should be separated from the others.

PRINCIPLE No. 3 Keep the poultry in good condition.
An animal in good condition resists better to diseases.

PRINCIPLE No. 4 Farmers should keep farmyard, buildings and equipment clean.
Poultry houses should be fenced**,** housing kept clean of bird droppings and unconsumed feed.

CASE DEFINITIONS FOR AVIAN INFLUENZA IN ANIMALS

The case definition is a description of parameters that help one in deciding whether a case of sick or dead poultry falls within the broad description of a suspect case or even a confirmed case. These definitions help in defining when one should jump when he/she is confronted with sick or dead birds or poultry whose productivity has suddenly gone down.
There are standard definitions but these are then adjusted according to environment and epidemiological picture of the outbreak. For standardisation case definitions should be used by all involved in disease prevention and control.

A **suspect case** is one where the subject animal(s) may have been in contact with diseased animal(s) or where there are reasons to believe the epidemiological and production picture of the flock (taking other issues of possible exposure to a clinically defined disease into consideration) warrants a closer investigation to confirm or exclude avian influenza (possible case), or where a subject animal shows clinical signs or has

laboratory results that cannot lead to the exclusion of the disease under surveillance (probable case).

A **confirmed case** is when the causative agent has been found and can be linked to the observed signs. The definition of a confirmed case can be an interaction between the laboratory diagnosis, the symptoms and how the case links with other confirmed cases.

The suspect case definition applicable to Swaziland will be divided into three different categories according to production sector: 1) Commercial poultry production sector with chickens and/or turkeys and/or guinea fowls (no ducks) with high to medium level biosecurity (system 1 and 2), 2) Small scale poultry production units with chickens and/or turkeys, and/or guinea fowls (no ducks) with low level biosecurity (system 3), 3) Homestead or backyard poultry systems with chickens or other poultry excluding ducks under low level biosecurity (system 4), 4) Homestead or backyard poultry systems with chickens and other poultry including ducks under low level biosecurity (system 5), 5) wild birds and wild bird species not confined to any artificial housing.

The suspect case definition is also affected by the level of the surveillance network players who should understand what the trigger points are for him/her. ***The following table approximates the definitions of a suspected NAI case in Swaziland.***

Production sector	Category of surveillance network player		
	Veterinarian	**Animal health technician and Animal Health and production workers**	**Farmer**
Commercial poultry production sector with chickens and/or turkeys and/or guinea fowls (no ducks) with high to medium level biosecurity (system 1 and 2)	As for farmer Include history of vaccination for NCD in less than six months period	As for farmer	Sudden death of poultry with mortality of 1% for 2 days Food and water intake reduced by 20% for one day One or more of the following clinical signs: depression, ruffled feathers, swollen head, bluish discoloration of wattles and combs, difficulty in breathing, diarrhoea, staggering or twisting of head
Small scale poultry production units with chickens and/or turkeys, and/or guinea fowls (no ducks) with low level biosecurity (system 3)	As for farmer Include history of vaccination for NCD in less than six months. May include post mortem findings	As for farmer	Sudden death of poultry with mortality of 1% for 2 days One or more of the following clinical signs: depression, ruffled feathers, swollen head, bluish discoloration of wattles and combs, difficulty in breathing, diarrhoea, staggering or twisting of head
Homestead or backyard poultry systems with chickens or other poultry excluding ducks under low level biosecurity (system 4)	As for farmer May consider history of vaccination for NCD in less than two months, and area history of NCD to decide. May include post mortem findings.	As for farmer	Mortality of 5% or higher within a period of 1-3 days in two or more households One or more of the following clinical signs: depression, ruffled feathers, swollen head, bluish discoloration of wattles and combs,

			difficulty in breathing, diarrhoea, staggering or twisting of head
Homestead or backyard poultry systems with chickens and other poultry including ducks under low level biosecurity (system 5)	As for farmer May consider history of vaccination for NCD in less than two months, and area history of NCD to decide May include post mortem findings.	As for farmer	Mortality of 5% or higher within a period of 1-3 days in two or more households in non-ducks One or more of the following clinical signs in any species: depression, ruffled feathers, swollen head, bluish discoloration of wattles and combs, difficulty in breathing, diarrhoea, staggering or twisting of head
Wild birds and wild bird species not confined to any artificial housing.	Clinical signs (rare in wild birds) as shown for farmers Abnormal death of up to five or more birds in an area covering a radius of 1 Km (consider if resident birds in nesting, or migratory birds)	Clinical signs (rare in wild birds) as shown for farmers Abnormal death of up to five or more birds in an area covering a radius of 1 Km	Clinical signs (rare in wild birds) of swollen head, bluish discoloration of wattles and combs, difficulty in breathing, diarrhoea, staggering or twisting of head. Abnormal death of up to five or more birds in an area

NEWCASTLE DISEASE CONTROL

Newcastle disease (ND) is a Notifiable transboundary animal disease and Swaziland like any other country has to inform the *Office International des Epizooties* (OIE) when an outbreak occurs. The disease is caused by a paramyxovirus which mainly affects poultry. Chickens are the most susceptible host. The incubation period varies with the strain of virus, and is generally 4 to 5 days (range 2 to 15 days).

ACTIONS THAT NEEDS TO BE TAKEN BY AN OFFICER ON SUSPICION OF NEWCASTLE DISEASE

Any case of suspected ND should be properly investigated by such trained officials to the level of confirming the diagnosis either as ND or something else.

- On receipt of a report of ND suspicion it is important to get a full account of events including clinical signs observed, numbers sick and numbers dead, ND vaccination history, level of biosecurity in farm/homestead, reports of similar disease or deaths in area, etc.
- A decision is then made to visit the site to verify the report taking note that you have strong suspicion you're dealing with ND or any other disease besides avian influenza.
- It is advisable to carry disinfectants, post mortem kit/instruments and protective gear (coat, washable boots preferably gum boots, hand gloves, face masks and goggles (may be considered optional) as well as sample collecting and storage/transport equipment.
- To come up with a suspect cause of disease use disease history and management information gathered plus examination of birds and environment including housing conditions at site.
- Depending on need and competence to perform post mortem examination, this can be done to few birds at site to confirm your suspicion.
- Consider carrying laboratory samples depending on need and whether these can reach laboratory in the fastest possible time and by safe means (see below)
- Get all necessary details about the event which include date of onset, incoming birds, history similar problem in area or surrounding areas, numbers dead and numbers sick, ages and housing of birds, vaccination history including vaccines, method of application and dates, types of samples taken and dates, name of official, name of farm/farmer and diptank area of farm/homestead.
- Disinfect and change clothes before leaving farm making sure you do not spread infectious agent through clothes and shoes.
- If there is reason to suspect avian influenza (see guidelines on same) do not leave farm without notifying the Director of Veterinary and Livestock Services/Deputy DVS / Senior Veterinary Officer (Field Services) or your Regional Veterinary Officer. These officials will give further direction.
- Notify line veterinarian by earliest possible means, submit samples and full report. The report should be done within 24 to 48 hours to allow decisions to be made.

- Veterinarians should submit emergency disease report forms to epidemiology unit within 24 hours of investigation or receipt of a report from their officials.
- Official has to advice farmers on best possible ways of handling the outbreak taking into consideration economics of the strategy while making sure disease is not spread to other areas and also ensuring safety of farmers and consumers (some of the recommendations are outlined below).
- If disease is endemic note should be made of any changes in virulence which is seen through changes in rate of spread and/or mortalities and morbidities. To explain this change in behaviour of the disease numbers and event dates are very important.
- If the disease is occurring for the first time in the area or region or country or has been absent or previous outbreaks declared closed/finished, all issues should be handled as an emergency with emergency notification to the OIE by the office of the DVLS required within 24 hours of discovery of disease.
- In all lead or index cases irrespective of whether the disease is endemic or not, laboratory confirmation should be pursued as it is important to confirm whether the disease is still ND and the strains and virulence are still the same known ones. Laboratory confirmation assists in the design of control strategies.
- In any case institute disease control measures at farm and in area, informing the community (in case of village chickens) about the importance of a joint vaccination program for the area since the disease is often not limited to a farm or homestead.
- Vaccination programmes carried out are normally financially supported by farmers, until such time government policy directs otherwise.

THE DISEASE

The clinical signs of ND

The clinical signs of ND vary considerably according to the virulence and tropism of the ND virus involved, the species of bird, the age of host, the immune status of the host and environmental conditions. As a result, none may be regarded as a specific sign of ND.

- Chickens infected with virulent ND virus strains may die without showing any signs of illness.
- The chicken fluffs its feathers and appears to ‘have its coat dragging on the ground.
- Lethargy and inappetance.
- Respiratory signs such as mild rales and snick can be detected by careful observation.
- Severe respiratory distress and gasping.
- Swelling of the head and neck may occur.
- Greenish diarrhoea.
- Marked decrease in egg production. Sometimes deformed eggs may be produced.
- Nervous signs of tremor, torticollis (neck twisting), convulsions and paralysis of wings and legs may not be seen until the disease is advanced.
- Mortality may be very high, often reaching 50% to 100%.
- Other domestic poultry such as turkeys and pigeons may also be affected.
- Normally ducks are resistant to the disease but on occasions, ducklings may be affected.

Post-mortem findings

- Post-mortem findings are characteristic but not definitive. ND can be suspected if the following lesions are encountered, particularly in combination (and when the flock history is also consistent with an ND outbreak):
- Congestion and mucous exudate in the trachea;
- Congestion of the lungs (heavier than normal; lungs sink in water/formalin);
- Haemorrhages of the mucosa of the proventriculus
- Haemorrhagic and necrotic ulceration of lymphoid patches of the intestine, caecal tonsils and bursa of Fabricius;
- Congested ovarian follicles in chickens in lay.

Spread in commercial flocks

In large commercial poultry units, the virus enters flocks through some break in biological security (on food, people, eggs, vehicles), by the introduction of infected birds in multi-age farms, or by aerosol (in the air) from an adjoining property.
Once a few birds are infected, spread within the flock will be mainly by aerosol. Vaccines contaminated with virulent ND virus have also initiated outbreaks within flocks.

Spread and behaviour of ND in village flocks

Epizootic ND.

The usual source of virus is an infected chicken, and spread is usually attributed to the movement of chickens through chicken markets and traders. A chicken incubating ND can introduce the virus to an isolated, fully susceptible flock, resulting in up to 100% mortality.

Endemic ND.

This is a common form of disease occurrence. The number of deaths is often relatively low and does not attract official attention. The affected flocks usually result from breeding birds that have survived an outbreak. As susceptible birds increase the virus spread. This endemic form will often contribute to mortalities among young birds. Ther will eventually be enough susceptible birds to sustain an explosive spread of virus with numerous deaths.

Seasonality of ND outbreaks.

Human activity influences the occurrence of ND, and there are human activities which are seasonal like during the planting season chickens are closed in whilst in winter they are let out. Sometimes villagers recognise the season when ND will occur, or they recognise the early cases, and they dispose of their chickens by sale, thus initiating or sustaining
outbreaks.

Impact of vaccination

Vaccines will prevent disease, but not infection. Vaccinated birds may excrete virulent ND virus but in smaller quantities than those excreted by susceptible birds. There may be sufficient virus to infect other chickens.

COLLECTION AND SUBMISSION OF SAMPLES FOR THE DIAGNOSIS OF NEWCASTLE DISEASE

The diagnosis of ND is important in that confirmed outbreaks help national authorities to better understand the epidemiology of ND and to develop appropriate control strategies.

Tissue samples

Since virulent ND virus strains are normally thermolabile, it is important to send samples properly packaged with icepacks. Wherever possible, please try to observe the following conditions:

Fresh samples.

It is normally preferable to send the whole chicken to the laboratory if you suspect NCD and you are sure there is no chance it is avian influenza. The chicken should be properly secured in a plastic bag and put in a cooler box with ice packs or otherwise sent as fresh as possible.

If there is need to open the carcase (taking all precautions is not avian influenza) samples of spleen, lung, gastro-intestinal tract (especially intestines and caecal tonsils) and the entire head should be wrapped in plastic and placed into a coolbox with ice or icepacks.

Where it is not possible to keep the samples cold or when it is not certain that samples will arrive at the laboratory within 24 hours samples of spleen, lung, entire head (or brain) and long bones should be conserved in 50% glycerine (glycerol) in saline and kept as cold as possible during dispatch.

The coolbox containing the samples should be clearly identified and accompanied by the following information:

- the name and address of the person sending the samples;
- the date and location where the samples were collected;
- case details — age, sex, breed, vaccination and treatment history, clinical signs, mortality and description of the outbreak; and
- differential diagnosis.

The Central laboratory has submission forms where to record this information.

Serum samples

The reliability of any serological test depends to a large extent on the quality of the samples submitted.

Blood from domestic chickens is usually collected from a wing vein. Training in blood collection from the wing vein of birds using a syringe and needle needs to be mastered through some kind of training and practice, otherwise veins are blown up and owners of animals may not be pleased with bleeding, swollen and dropping wings. A separate needle should be used for each animal.

If paired samples are required they must be collected from the same bird 2 or 3 weeks apart in order to monitor the response to vaccination. Therefore, a means of identifying each individual bird and the matching sample is necessary.

Labelling of samples
Labelling is very important for identifying individual samples, flocks, owners and date of collection. Samples must be labelled accordingly as the laboratory or persons responsible for the samples prescribe.

Avoiding haemolysis of samples
Haemolysis can be reduced by using clean, dry, sterile needles and avoiding contamination by water, faecal material, and bacteria. Blood samples should not be exposed to direct sunlight or excessive heat for e.g. inside a car.

Storage of sera prior to dispatch
Samples should be allowed to clot before transporting them any distance. The samples should be held in a warm place until the clot retracts. Clots may not retract readily in cold weather or if samples are chilled too soon after collection.
Blood samples for serology must not be frozen until the serum has been separated from the clot.

Dispatch of samples
Before sending samples, ensure that:
- the samples are accompanied by an information sheet; and
- the relevant person in the central veterinary laboratory is informed when the package is expected to arrive and by what means of transport
- the name and address of the person sending the samples and the name and address of the recipient is clearly labelled

CONTROL OF NEWCASTLE DISEASE
Vaccination is the only effective way of controlling ND. Note that most vaccines currently in use are multi-dose vials, often containing 1,000 or 2,500 doses, which must be kept cold (within a 'cold chain') from manufacture until administration to the chickens.

Vaccination
ND vaccines currently in use in many countries include: La Sota (live vaccine, thermolabile); Hitchner B1 (live vaccine, thermolabile), ITA-NEW/NEW COVER (inactivated vaccine, thermostable); NDV4-HR (live vaccine, thermostable); and I-2 (live vaccine, thermostable) and ND Clone LZ.58 (Nobilis ND Inkukhu, live partially thermostable, Intervet South Africa Pty. Ltd)

Instructions on use of ND vaccines
- La Sota, Hitchner B1, and ITA-NEW/NEW COVER must be kept in the refrigerator between 4 and 8°C and never frozen.
- All vaccines should not be used after the expiry date.
- Once a vial of thermolabile, live vaccine has been opened it should be used immediately and not stored for use the following day.

- During vaccination campaigns, all types of vaccine should be stored in a coolbox or wrapped in a damp cloth, and not exposed to sunlight. This also includes the thermostable vaccines.
- Where vaccines can be administered in many forms including eye drop method, the eye drop method remains the most efficient route of administration.

Live	Inactivated
1. Contain a small amount of living virus which replicates; cheaper	Must contain a large amount of inactivated virus; more expensive
2. Can be administered by many routes: eye drop, intranasal, spray, drinking water, oral, injection	Must be injected
3. Stimulate all forms of immunity	Stimulate only antibody-based immunity
4. Duration of immunity varies according to route of administration, usually not more than 4 months	Duration of immunity approximately 6 months
5. Difficult to store (except thermostable live vaccines, e.g. I-2)	Less difficult to store
6. Not dangerous to vaccinator	Dangerous to vaccinator on accidental injection
Examples: La Sota, Hitchner B1, NDV4-HR, I-2, ND Clone LZ.58	Examples: ITA-NEW/NEW COVER

The main advantages of thermostable, live vaccines are:
• thermostability – can withstand break in cold chain and remain viable;
• ease of administration
• spread from vaccinated to non-vaccinated chickens in close contact.

Methods of vaccination

Eye drop administration

- Correct dilution of the vaccine is critical.
- If eye-droppers are being used, they should be calibrated beforehand. In the absence of suitable eyedroppers, it is also possible to use the tip of a feather or a syringe to administer the drop.
- Most live ND vaccines require re-vaccination at 3 to 4 monthly intervals.
- Eye drop administration provides good protection because after administration, the vaccine passes to the Harderian gland just behind the eye, a key organ in the development of the immune response.

Administration of the vaccine via drinking water

- Easier than eye drop, but
- Provokes a lower level of immunity than eye drop administration, and
- Requires more frequent application (twice, two to three weeks apart initially, with re-vaccination occurring at least every three months).

It is important to: remove drinking water from the chickens for one to two hours before the administration of the vaccine; mix the vaccine with a volume of water that the chickens will be able to drink during one hour (usually 5 to 7 mL of water per bird); and always use fresh and clean water.
In rural areas, it is best to give the drinking water in the morning just as the chickens are released from their chicken house. In areas with abundant surface water, chickens find their own source of drinking water and vaccination via water
is not appropriate.

Do NOT: use metal water receptacles; use disinfectants to clean water receptacles as they will inactivate the vaccine virus; use treated tap water, (If you only have access to treated tap water, it is advisable to (i) let the treated tap water stand over night allowing the chlorine to dissipate, or (ii) add one teaspoon of powdered milk per 10 litres of water to neutralise the effects of the chlorine.); place water receptacles containing vaccine directly in sunlight or in hot areas; allow other animals access to the vaccine.

Administration via feed

- Oral vaccination of chickens with thermostable vaccines (i.e. NDV4-HR and I-2) has been successful in some countries.
- One problem with food based ND vaccination is the low recovery of virus from some grains (especially maize), a consequence of either binding or inactivation. Therefore, the food used in any vaccination campaign should be recommended by appropriate trained personnel.
- Instructions in the manufacturers sheet should be followed.

Administration via injection

- Inactivated ND vaccines are administered only by intramuscular or subcutaneous injection (in the breast or the leg).
- The vaccine should be allowed to reach ambient temperature (approximately 28°C) and the contents well shaken prior to use.
- Inactivated vaccines are more effective in chickens that have previously received a living vaccine.
- Re-vaccination is usually done every 6 months.
- Accidental injection of this vaccine into the vaccinator can cause a serious localised reaction.
- Expert medical advice should be sought at once, and the doctor informed that the vaccine was an oil emulsion.

Dosages:
0.2 ml Day-old to 3 weeks
0.3 ml 3 to 5 weeks
0.5 ml 5 weeks and older

Timing of vaccinations

- After administration of the vaccine, immunity does not develop immediately. One to two weeks is required for the full immune response to occur.
- Chickens should be vaccinated at least one month before an outbreak is likely to occur. This needs area knowledge about the disease.
- With the eye drop method of administration, chickens are best vaccinated at least three times a year.
- If oral routes of administration are used, chickens should be given a booster dose two to four weeks after the primary vaccination, with re-vaccination at three monthly intervals.
- Vaccinating village chicken poultry flocks at three to four monthly intervals will also provide protection for newly hatched chicks.
- Inactivated and living ND vaccines contain a ND virus that is antigenically similar to the disease producing strains.
- Inactivated ND vaccine is usually administered every six months. In areas where outbreaks generally occur once a year, the vaccine may be strategically administered before the normal seasonal outbreaks are due to commence.
- If the mode of administration requires the handling of individual birds, time vaccination campaigns to coincide with availability of handlers.

RECOMMENDATIONS FOR DEVELOPMENT OF ND VACCINATION CAMPAIGNS (DURING ABSENCE OF OUTBREAK)

The best way of ensuring good results is to prepare thoroughly before commencing with vaccinations in the field and to have the will and the resources to ensure that subsequent campaigns will be implemented at the recommended intervals.

- Farmers should avoid the introduction of new birds to flocks during the periods of the year when ND occurs more frequently.
- Advice farmers to quarantine chickens that have failed to sell at the market.

- Advice farmers to build proper poultry houses. An elevated chicken house that is well ventilated allows faeces to fall through to the ground and so minimises contact with various infectious agents.
- Commence campaigns at least one month prior to the season when ND outbreaks are more common.
- Postpone the vaccination campaign if is suspected that an outbreak of ND is in progress.
- Vaccinate healthy chickens only.
- Always inform farmers of the need to revaccinate their birds.

RECOMMENDATIONS ON CONTROL MEASURES DURING AN OUTBREAK OF ND

- Isolate all sick chickens.
- Advice farmers to slaughter chickens that are very ill, and bury.
- Advice farmers not to transport chickens that are ill or dead to other areas that are free of the disease.
- Bury or burn all dead chickens.
- Do not vaccinate chickens that are showing signs of illness.
- Be careful that once an outbreak is ongoing your vaccine campaign will vaccinate sick or incubating chickens unknowingly, and these chickens will continue to die. Farmers will often associate the vaccine with the death of chickens that are vaccinated in the face of an outbreak.
- Advise farmers to wait for at least one month after the last mortality before re-stocking.
- Advise farmers to contact the Veterinary officials and/or poultry officers in their area when they notice any signs of illness.

INVESTIGATING VACCINE FAILURE: REASONS FOR VACCINE FAILURE IN NEWCASTLE DISEASE

Vaccine failure need to be investigated and the following considerations should be taken into account:

1. Incorrect agent: This is unlikely with ND vaccines due to the lack of antigenic variation between strains. Mislabeling of the vaccine is also unlikely.
2. Ineffective vaccine e.g. counterfeit vaccine.
3. Vaccine administered too late and bird could already be incubating disease: Vaccinating in the face of an outbreak.
4. Insufficient dose of vaccine: e.g. eye-dropper not correctly calibrated; bird did not drink sufficient water, reduction of vaccine titre because of inadequate storage.
5. Death of live vaccine: e.g. vaccine exposed to sunlight; exposed to extremely high temperatures during transport or storage; held outside the cold chain beyond the recommended period. Vaccine mixed with an inappropriate food carrier, e.g. maize.
6. Biological variation: It is expected that a very small percentage of birds will not mount an adequate immune response post vaccination.
7. Presence of passive immunity: Chicks up to the age of three weeks may have passive immunity to ND that will interfere with vaccination.

8. Immunosuppressed bird: e.g. malnourished bird; infection with immunosuppressive diseases such as Infectious Bursal Disease; certain parasitic infestations.

POST-MORTEM TECHNIQUE FOR DOMESTIC FOWL

When selecting birds for autopsy, take live birds that are showing typical signs, rather than those that are terminal (*in extremis)* or dead. In these, the primary disease may be obscured by secondary diseases or by post-mortem decomposition.

A sequence of dissection for the domestic fowl allows observation of all body systems, and outlines suitable methods for collection of specimens for laboratory examination.

Examine the bird for clinical abnormalities before it is killed. This may indicate a particular system or organ that needs special attention during the post-mortem examination.

Performing an autopsy (post mortem) need a bit of coaching and practice to know how to open the bird and what to look for. The full technique for performing a post mortem examination of birds can be found in appropriate reference materials.

HUMANE KILLING OF BIRDS

It is important to kill birds in a humane, efficient manner which does not itself cause changes that might confuse the diagnosis. The following methods are recommended, details of which are available from OIE Terrestrial Manual and from ACIAR material.

- Cervical dislocation.
- Intravenous injection of air in the wing vein.

RESPONSE TO RABIES REPORT

1. In the event of a reported case of suspected rabies, a VO must proceed to the place of the suspected outbreak as quickly as practicable. If no VO is present in the region the next senior officer available must proceed to the place where it is suspected meanwhile notifying by telephone or other means the nearest VO in another region.
2. On arrival at the site of the incident, if the dog is dead and the history suggests that it died of rabies, the VO will remove the head and place it in a plastic bag or other waterproof container in which it should be conveyed as quickly as possible to the Veterinary Investigation Laboratory, Manzini. Whilst carrying out this work rubber gloves must be worn and care taken that the material does not splash into the eyes. The danger of acquiring rabies from infected material must be emphasized to all ranks likely to handle sample. The headless body should be destroyed by burning.
3. Should the dog still be alive on arrival of the VO and be displaying symptoms suggestive of rabies there are two courses open :
    a. If suitable and very secure facilities are on hand and the dog can be placed therein without undue danger of owner or other persons being bitten it should be retained alive. Should death occur within 10 days of the commencement of symptoms the head must be removed as above. It is the VO's (or other senior officer's) responsibility (and also of owner by law) to ensure that the Veterinary Department is informed as soon as the animal dies.
    b. The dog may be destroyed immediately by IV injection or by shooting into the heart so as to leave the brain undamaged for diagnostic purposes, thereafter proceeding as above.

       Before leaving the site of the investigation the VO (or other senior officer) should complete the details required in the questionnaire on form MZ 24/66.

4. **Action on confirmation of rabies**

   The VO may decide to take some of the following measures in anticipation of confirmation of the disease, especially where suspicion of rabies is strong or where there is a hazard to human health.

   Confirmation will normally be made by telephone from Manzini to the VO concerned. The latter will immediately notify by the quickest means ;

    a. **The appropriate Medical Officer of the Medical Depatment** He must be told names and addresses of all persons who are known or suspected of having been bitten or who are likely to have had contact with the excretions of rabid animals ,together with any other useful details e.g dates and degrees of contact
    b. **The Chief Veterinary Officer** with whom he will discuss any further action to be taken ,as for example;
        i. Broadcasting of warnings by the press and radio and notification by the same agencies of a "tie-up" area.
        ii. Publication of a "tie-up" area in the Government Gazette
        iii. Ordering of vaccine to cover all dogs in-

1. the ten mile area around the outbreak
2. such larger area as may be thought advisable

iv. The necessity of moving staff to deal with the outbreak

c. **The local Health Authorities (if any)** .The health Department of the regions and Medical Officers of large companies e.g Ubombo ranches .
d. **The District Commissioner of the district concerned** asking his help with the dissemination of information about the outbreak and with assistance in obtaining the co-operation of the Chiefs and people in the infected area.
e. **Local hospitals**
f. **The local officer i/e police**

5. **" Tie-up" Orders**

As soon as possible after confirmation and without waiting for the notice to appear in the Government Gazette, the region VO's must arrange for the Veterinary Assistants of the areas concerned to visit all dwelling in the "tie-up" area, which is normally taken as all premises within six miles of the outbreak, to ensure that dogs are tied up or detained indoors, and to take appropriate action where they are not. Additional visits should be paid to the area by the Animal Health Inspectors responsible .In thickly populated areas, it may be necessary to draft in from other areas after consulting with headquarters, and to seek assistance from the police, especially where dog owners fail to co-operate fully.

Consideration should be given to the shooting of all stray dogs after the first week and following consultation with the police.

6. **Duration of 'tie-up' Orders**

Paragraph (i) of Regulation 54 of the Stock Disease Regulations allows for the compulsory detention by owners, of all dogs within any radius prescribed by a Government Veterinary Officer, for a period of at least 6 months .In practice it has been found difficult to enforce this in any large area and consideration may be given to reducing the prescribed period to a minimum of about a month soon after completion of area vaccination. This must not be done without prior discussion with the Chief Veterinary Officer.

7. **Vaccination**

As soon as possible following confirmation of an outbreak arrangements must be made for the compulsory and free vaccination of all dogs within a ten mile radius followed possibly by all dogs in the region and in nearby areas of adjoining regions. This will be done in consultation with Headquarters, who will arrange for a supply of vaccine to be ordered.

An estimate of the number of dogs likely to be involved may be made from the latest census return and Veterinary Assistants should be required to have an up-to-date knowledge of the number of dogs in the Dip-tank areas under their control.

Vaccination campaigns should be organized well in advanced .The dates and times affecting the various areas must be published in the Government Gazette, quoting Regulations 16 of the Stock Disease Regulations in order to make attendance compulsory by law and render absentees liable to prosecution. A copy of the notice is normally published in the press. Bearing in mind how ever the number of illiterate owners, it is absolutely essential that Veterinary Assistants make house to house visits in their Dip-tank areas in order to notify owners of the impending vaccination dates times and places. Arrangements should also be made through headquarters for a loudspeaker van to tour areas spreading the necessary information.

Vaccination teams normally consist of up to four Veterinary Assistants under an Animal Health Inspector based on a LWB land Rover or two cars. Vaccine is conveyed in insulated bags (cool bags) with a minimum of two dry ice bricks per bag.

Other stores required to equip the team are:

a. Hypodermic syringes
b. Hypodermic needles (1 inch 19 gauge)
c. Portable sterilizer
d. Gas stove and spare cylinder or
e. 3 legged pots ,wood and matches
f. books of veterinary certificates
g. rubber stamps and pad
h. string for muzzling
i. dog catcher or rope
j. small folding table
k. groundsheet
l. 2x4 water containers
m. tent to keep vaccine out of the sun

All dogs of and estimated age of 3 months upwards are to be vaccinated. Owners of dogs under 6 months of age should be advised to bring them to their nearest Veterinary officer for a second inoculation when they are a year old.

Owners sometimes request advice regarding the vaccination of cats. They should be informed that cats brought to vaccination centers will be vaccinated, but should be warned of the slight risk of post-vaccinal paralysis.

Reference should be made to the Stock Disease Regulations, especially **Regulation No 54.**

NATIONAL BSE SURVEILLANCE

Preamble

Bovine Spongiform Encephalopathy (BSE) was officially defined as notifiable disease in November 1999 by the DVLS order. Following the 'feed ban' the feeding of ruminant protein to ruminants was prohibited and the reporting of suspect cases of BSE and Scrapie became compulsory.

Next are the guidelines for the BSE surveillance program. The purpose of this outline is to clarify the roles and responsibilities of the official veterinarians in detecting and controlling the recycling of potential BSE infectivity within the cattle population.

BSE Surveillance Program

1. BSE suspect cases

- All animals /cattle showing the following clinical signs
- poor body condition or decrease in production
- difficult in turning, falls
- exhibiting an abnormal head carriage
- muscle tremors
- Hyperaesthesia(hypersensitivity to touch, sounds)
- Cattle from 30 to 107 months of age(more likely to develop BSE
- Animals showing hesitation at gates, barriers use the 'Log or pole test' placed at the entrance to dip tank yard to determine pre-clinical and clinical cases
- moribund or dead on arrival at slaughter or fallen stock

All BSE suspects cattle must be reported to the nearest Regional Veterinarian, he/she will collect, package and submit samples (obex), to the Central Vet Laboratory in Manzini for BSE testing under the national BSE surveillance program.

1. Age verification:

Cattle age must be verified using one of the following:
Farm Records: Individual animal identification (ear tags and brands), consistent with the rest of the herd and confirmed by farm records. Farm records that may be requested are, birth or calving records, purchase documents, or other records to verify the age of the animal, or ownership for at least 30 days.

Dentition: In the absence of farm records, ear tags, or individual animal brands to determine the age of an animal, age verification by dentition will be acceptable.

Younger cattle: Cattle must have at least three permanent incisors erupted (at least 30 months of age) and at least one permanent incisor still erupting and not in contact with the upper dental pad (no more than five years of age). A *Full Mouth* (all eight

permanent incisors) is complete at about 48 months. When both lateral (canine) incisors are in wear, the animal is to be considered 5 years of age, or older.

Older cattle: Age is determined by the leveling of permanent incisors, which starts with I1 at about 6 years of age, followed by I2, I3 and I4 at 7, 8 and 9 years of age respectively, animals that don't have verifiable records of birth should still have all eight incisor teeth present, with at least a portion of the crown still visible on all eight teeth, to be considered less than 107 months.

Age determination in neurological animals older than 107 months will be left at the veterinarian's discretion.

Ear tags, tattoos and year brands, which clearly define the year of birth, will be accepted.

Professional judgment should also be used when dentition is incomplete due to trauma.

2. BSE Testing and Samples collected

BSE testing is in full accordance with the guidelines recommended by the World Organisation for Animal Health (OIE). Samples must be collected by targeting the highest risk cattle. This includes animals over 30 months of age that are dead, down, dying or diseased. BSE Testing is performed exclusively on Brain tissue.

No validated live animal test for BSE currently exists. Accordingly, testing for BSE can only be done on the brains of dead animals. Brain samples are screened using rapid tests that accurately and quickly detect a BSE positive sample nearly 100% of the time. Eligible samples are sent to the OIE Regional Laboratory in Pretoria, South Africa.

Samples collected indicate the number of samples submitted or being submitted for BSE Testing. Each sample represents one animal. BSE surveillance samples come from a variety of sources, including farms, the Beef Export abattoir, and Central Veterinary diagnostic Laboratory.

3. Food Safety and animal health protection from BSE

BSE surveillance is not a food safety measure. The food supply chain must be protected through the removal of specified risk material (SRM)-the tissues that harbor BSE-from all cattle slaughtered at the export abattoir. The removal of SRM from the food supply has been a legal requirement in the country since 2001.

SRM is also banned from all animal feed produced in Swaziland or imported. This measure helps to protect the animal feed supply, and is critical in our efforts to eliminate BSE from the national herd.

4. Feed Mills Monitoring

To guarantee that all imported animal feeds do not contain **Processed Animal Protein** (PAP) or MBM or SRM existing controls on feeds mills includes Veterinary Public Health unit Carry out annual spot checks on said feed mills.

6.Rendering

Recommended Standard E.C rendering parameters for destroying the BSE Agent are 1330C/30mins. 3 bar. The rendering product not used as blood or Meat and Bone Meal (MBM), instead should be disposed off by deep burial. Records of daily rendering or incinerated waste products disposed off must be kept.

Spinal cords separately collected from the vertebral column, weighed, and incinerated together with other vertebral column bones on the SMI export abattoir premises.

7.Fallen Stock

- Less than 1% of cattle arriving at the slaughterhouse are emergency slaughter cases or dead on arrival
- Fallen stock under goes Post- Mortem Examination, taken through the rendering plant and the remaining product is disposed of by deep burial.

8.Imports of Live Cattle and Meat Products:

Imported cattle are well identified through branding and /or eartags. Documentation kept for traceability and also to show whenever necessary that cattle imported for slaughter and feedlot were not eventually used as breeding animals. At all times the importation of cattle and meat products is from non- BSE infected countries. Import permits are obtained from the designed veterinary offices in the country. In addition to the international Veterinary Import Permit local Stock Removal Permits are used to authorize the movement of cattle within the country.

9.Laboratory and Sampling Protocol

The ongoing surveillance program samples a minimum of 10 animals per year from targeted cattle subpopulations from farms, the export slaughterhouse.

- Laboratory Personnel at the Central Veterinary Laboratory (CVL) have been taught the basics of handling and storage of BSE suspect brain samples.

- ❖ All cattle that died showing CNS signs ,rabies suspects cattle, samples of those found dead ,those that are sick at slaughterhouses ,those found dead before slaughter or on arrival their brain taken for testing.

- ❖ Brain samples specifically the mid-brain, cerebellum shall be removed from the head by CVL staff, stored in 10% formalin bottles and sent to Ondersteport Veterinary Institute (OVI) Laboratory in Pretoria for diagnosis. The sampling and submission of brain/heads from farms country wide and from the export abattoir shall be the responsibility of RVOs and VO-MH. A minimum of ten brain samples is expected for the whole country.

BSE Public Awareness

An active BSE surveillance program should is being implemented This underlines the serious need for increased BSE public awareness and education. This national exercise entails the continued inclusion of BSE lectures as part of the Veterinary Assistant Training Course offered at Mpisi Veterinary and Stock Farmer Training Center (VFTC). In-service refresher courses and seminars for stock farmers shall be carried out by responsible Veterinary Assistants and Animal Health Inspectors in each region especially on Dipping days.

FATE OF BSE SUSPECT CASE AT THE ABATTOIR

- ❖ Any animal that shows nervous signs or any sign associated with BSE at the export plant should be immediately downgraded to local/non-EU eligible irrespective of negative diagnosis.

- ❖ The plant veterinarian should be immediately informed to do a clinical examination and will then recommend a post mortem or slaughter under controlled conditions. Such animals are slaughtered last.

ANIMAL HEALTH DIVISION REPORTING SYSTEM

1. Each time cattle dies (killed or died of disease), farmers are required by law to submit the spleen, rib and lymph node of the dead animal to the Diptank Assistant (see smear guidelines). The Diptank Assistants (DTA) completes ***Libito*** and submits it to the Veterinary Assistant (VA) at each dipping day. The VA enters the death in the diptank register (see dipping operations guidelines) and transfer the information from the Libito to the ***Smear form***.
2. Each time farmers have a problem with their animals they report to the VA during dipping days or when he/she is at home. During dipping days, the VA inspects animals and attends to sick ones. The VA also assists farmers with other activities such as vaccination, castrations, deworming and regulates animal movements. She/he also does extension work. All of these activities are recorded in the diptank register.
3. At the end of the month, the VA compiles a report for each and every diptank under his/her supervision (see ***VA monthly report guidelines***) and submits it to his supervisor (Animal Health Inspector (AHI) or Assistant Animal health Inspector (AAHI)).
4. The AHI/AAHI inspects diptanks every month and completes the Inspection register (see Inspection guidelines). He /she supervises prosecutions of people who fail to follow the Animal Diseases Act, 7 (1965) and completes the Prosecution register (see Prosecution guidelines). He/she attends auction sales conducted in his/her subregion and regulates animal movements.
5. At the end of the month, the AHI/AAHI compiles a report based on all the reports submitted by the VAs of his subregion and adds the above mentioned activities (see ***AHI Monthly report guidelines)***. The report is then submitted to the Senior Animal Health Inspector (SAHI).
6. Cordon Guards (CG) patrol the cordon fences (country boundary fence and redline). Others man the ports of entry and check points. At the end of the month they submit a report to the Cordonline Inspector (CI). The CI compiles a report based on these reports and submits it to the SAHI.
7. The SAHI compiles a ***Regional Monthly Report*** based on all the reports submitted by the AHI/AAHI. Added to the reports are activities done at regional level like, clinical work ,imports and export control ,quarantine services etc. Also included is the ***Cordon Report*** from the Cordonline Inspector. The report is submitted to the Regional Veterinary Officer (RVO) and copied to the Chief Animal Health Inspector.
8. The RVO attaches the Regional Disease Report (see Disease Report) and submits the **REGIONAL VETERINARY MONTHLY REPORT** to the **Epidemiology Unit.**
9. The Central Veterinary Laboratory compiles a **CENTRAL VETERINARY LABORATORY REPORT** at the end of the month and submits it to the **Epidemiology Unit.**
10. The Veterinary Public Health (Meat Hygiene) compiles a **MEAT HYGIENE REPORT** at the end of the month and submits it to the **Epidemiology Unit.**

11. Veterinary Headquarters issues import permits for immediate slaughter cattle as well as feedlot cattle. It also issues import permits for wildlife as well as transit permits for wildlife. At the end of the month, AAHI (headquarters) compiles a report on the permits issued and submits it to the **Epidemiology Unit**.
12. **Reports to the Epidemiology Unit are submitted on the first week of the following month (latest, 1st day of the second week).**
13. The Epidemiology Unit compiles an **ANIMAL HEALTH DIVISION REPORT** for the month based on all the reports submitted. The report is sent to the 4 Regional Offices (who in turn send it to their subregions), the Central Veterinary Laboratory , Veterinary Public Health Section (Meat Hygiene) and Headquarters. The Unit also compiles Disease reports for SADC, AU-IBAR and OIE. ***All these reports should be done by the end of the 2nd week of the following month (latest 1st day of the 3rd week).***

Report submitted to the Epidemiology Unit Monthly

1. Regional Veterinary Monthly Report
2. Headquarters Monthly Report
3. Meat Hygiene Monthly Report
4. Central Veterinary Laboratory Report

DISEASE REPORTING

Disease reports are divided into two types. There are **Emergency Disease Reports** for all Notifiable Diseases and **Monthly Disease Reports** for all other diseases (including the notifiable diseases).

EMERGENCY DISEASE REPORTS
In the event that any of the following "specified" diseases (specified by the Animal Disease Act of 1965) occurs, Emergency Reports using the ***Immediate or follow up report for specified diseases form*** are sent by RVOs within 24 hours to the Veterinary Epidemiology Unit (with copies sent to the DVLS and SVO (field):

1. Anthrax
2. Contagious Abortion
3. East Coast Fever
4. Foot and Mouth Disease
5. Epizootic Lymphangitis
6. Glanders and Farcy
7. Heartwater of cattle
8. Lumpy skin
9. Mange in Equines

10. Contagious Pleuro-Pneumonia
11. Rabies
12. Rinderpest
13. Scab in Sheep and Goats
14. Sheep pox
15. Swine Erysipelas
16. Swine Fever
17. Trypanosomiasis (Nagana)
18. Tuberculosis
19. Ulcerative Lymphangitis
20. New Castle Disease
21. Fowl Cholera
22. Contagious Epididymitis and Vaginitis (Epivag)
23. African Virus Disease of Pigs
24. Bacillary White Diarrhoea
25. Dourine
26. Equine Infectious Anemia
27. Equine Encephalomyelitis
28. Fowl Typhoid
29. Johne's Disease
30. Psittacosis
31. Sarcoptic Mange in cattle, dogs and pigs
32. Rift Valley Fever
33. Fowl Plague
34. Infectious Laryngotracheitis
35. Caprine brucellosis

Weekly follow up reports are then sent using the same report form to provide progress until the outbreak is either resolved or becomes uncontrollable. The follow-up reports are chronologically numbered (e.g. Follow-up report 1 or 2) .A final report is sent to close the outbreak.

MONTHLY DISEASE REPORTING

At the end of the month, a disease report is compiled by the RVO using the ***AU-IBAR form.*** The report includes all diseases that occurred in the region for that month. Steps to be followed when compiling the report are;

1. Go through the disease report from the field (SAHI report). Determine cases that should be reported (this should be based on the validity of the cases, as determined by the supervisory staff).
2. Report cases observed/ reported in the clinic and ambulatory services
3. Report cases from private vets in the region
4. Check with Central Veterinary Lab if there are cases confirmed for the region

Then complete the AU-IBAR form.

OIE REPORTS

Emergency Reports

Immediate notification is within 24 hours of confirmation of disease/infection and these are the occurrences that qualify for immediate notification:

- First occurrence of an OIE listed disease in the country
- First occurrence of a new strain
- Re-occurrence of a listed disease
- Sudden and unexpected increase in morbidity or mortality by an existing listed disease
- Emerging disease (sometimes the disease maybe unknown)
- Evidence of change in the epidemiology of a listed disease.

Follow-up reports on a weekly basis are to follow the immediate report. These are for reporting about the disease progress. A final report should be submitted to end the outbreak or declare the disease uncontrollable.

Six monthly notification on the presence or absence of disease

The obligation of member countries is to report regularly on OIE listed disease at least once each six months. Information could be provided by month and by first administrative division. This is the recommended template for notifiable diseases. Other templates are available for the whole country, by month and first administrative division or whole country by 6 months. These can be used for those diseases where there is lack of information.

There are two parts to the report:
Part 1: Is for Qualitative information on disease occurrence, control, prophylaxis and preventive measures.
Part 2: Is for Quantitative information. There are 4 templates and only one can be used. Template 1 is the recommended one.

NB; the report must be completed by the 2nd week of the 7th month (July and Jan)

Annual Questionnaire

In the annual report only qualitative information is needed for non-OIE listed diseases. Template 4 for the whole country for the 6 months period can be used for reporting. Also included in the annual report are; livestock census by administrative division, human cases/deaths for all OIE listed zoonotic diseases, Veterinary Services, National Reference Laboratories and Vaccine production facilities.

NB; the report must be completed by the 2nd week of February of the following year.

GUIDELINES FOR CATTLE FEEDLOTTERS AND SMALL SCALE FATTENING UNIT OPERATORS

1. Feedlot Construction and Registration

- Anyone interested in establishing a feedlot operation may consult any of the following veterinary officials for assistance:
  - Animal Husbandry Officer (AHO)
  - Livestock extension officer (LEO)
  - Assistant Livestock Extension Officer (ALEO)
  - Veterinary Assistant (VA)
  - Animal Health Inspector (AHI)
  - Assistant Animal Health Inspector (AAHI)
  - Senior Animal Health Inspector (SAHI)
  - Veterinary Officer (VO)

- These officers shall discuss with you what cattle feedlotting involves and then refer you to the LEO who shall give you all the technical advise and assistance on the proposed project and actually train you on cattle feedlotting.

- You should make it a point that the VA of your area is aware of the proposed project from the very initial stages, before any construction work ensues.

- The LEO shall assist you with monitoring/supervision of construction of the appropriate feedlot stall structure.

- Upon completion of the appropriate structure, the VA, LEO and VO shall all sign an **exemption from dipping at public dip tank form.** This form is proof that your feedlot has been approved and registered, and permits you to dip your animals at home. Therefore, keep it in a safe place.

- Your feedlot registration number shall be on the exemption from dipping form and shall be of the following format:
  - **FM# - Manzini Feedlot**
  - **FH# - Hhohho Feedlot**
  - **FS# - Shiselweni Feedlot**
  - **FL# - Lubombo Feedlot**

  *Where # is a numerical figure unique to your feedlot. This number **must** appear on all your animal ear tags as shall be discussed further down.*

- The registration numbers for feedlots that have been approved for cattle importation shall be pre-fixed with only **F** (without the region code) to differentiate them from the small scale fattening units.

- You are **NOT** supposed to stock your structure with animals before it is approved. If you do, you have to take your animals to the local public dip tank on dipping days until your feedlot is approved.

2. The pre-requisites for Feedlot registration

A. The feedlot structure specifications and components

- The LEO shall assist you with planning and construction of the appropriate feedlot structure as discussed above.

- The most important components/specifications of an appropriate feedlot structure shall consist of the following:
  - **Floor space**: Gentle sloping ground. Fourteen (14) squares metres per animal.
  - **Perimeter fence**: There are two types:
    a) All poles i.e. both vertical and horizontals, with 2.5m between vertical poles.
    b) Made of seven (7) strands of plain eight (8) gauge wire, and NOT barbed wire: 2m between vertical poles and 20cm between wire strands.
  - **Crush pen**: built of treated poles or alternatively poles of strong indigenous trees with no protruding brunch stumps.
    : 6m long, 1.5m between vertical poles, 4 horizontal poles per side (inside the vertical poles) and 70cm internal width between the horizontal poles.
  - **Loading/offloading ramp**: built exactly like the crush pen but on a rising height of one (1) meter at the front to suit the level of the cattle truck for loading/offloading purposed.
  - **Sufficient clean drinking water**: at least 40 – 50L per animal per day. There should be acceptable evidence that you will be able to provide enough amount of water during the stay of the animals in the feedlot.
  - **Feeding trough**:- built of 6″ cement blocks; 3 layers on back side and 1 layer on the front
    - 45cm in width and occupying the whole width on the upper side of the kraal
    - very fine finish on the inside with very small drainage hole at the base
    - 3m wide concrete slab in front of feeding trough
  - **Drinking trough**:- built of 9″ cement blocks on the lower side of the kraal, at least 10m away from the feeding trough
    - 1m long x 0.8m wide x 0.8m high
    - fine finish on the inside and fitted with a drainage valve at the bottom

- 3m wide concrete slab around the trough

⇨ **Store room**: 4m x 5m well ventilated room

B. Dipping Chemicals and Equipment

- You should provide you own supplies of an appropriate acaricide (dipping chemical) as approved by the Director of Veterinary and Livestock Services.
- Provide appropriate spraying equipment as approved by the veterinary officials that will be used to dip your animals.
- These items should be available before the arrival of the animals.

C. Official Individual Animal Identification

These guidelines only apply to those cattle which do not have the individual identification eartag detailed in the document "Swaziland Livestock Identification and Traceability System. Those with the individual eartag no longer need to follow the protocol below.

- All feeder/feedlot cattle shall be individually ear tagged with an **official ear tag,** which shall be **yellow** for locally sourced cattle and **blue** for imported animals.
- The **official ear tag** shall be on the **left ear.**
- The **official ear tag** shall be of the 'male and female' type, and so an ear tag applicator is also required
- The ear tag shall have the following information:
  - ⇨ Local cattle (Yellow Ear Tag)
    a) FRONT
    - ✓ Feedlot Registration Number (e.g. FM55)
    - ✓ Animal Identification number which will be of the following format:
      - MMDDXXL
        - ❖ MM = month of arrival
        - ❖ DD = date of arrival
        - ❖ XX = animal number on that particular day (to start from 1 on each new day)
        - ❖ L = for 'Local' animal

      NB: The full animal identification shall be prefixed with the feedlot registration number on written records (e.g. FM45-123105L = Animal is from Feedlot #45 in Manzini, arrived at the feedlot on December 31st, was the 5th animal to be acquired that day and is of local origin)

  - ➢ BACK
    - ✓ Dip-tank Number of origin
    - ✓ Kraal Number of origin

- ✓ Owner's own ID number, e.g. SMI's CPN number (this is optional)

⇨ Imported cattle (Blue Ear Tag)

➢ FRONT

- ✓ Arrival Date
- ✓ Animal ID number of the format:
  - MMDDXXI
    - ❖ All same as above
    - ❖ I = for 'Imported' animal

  NB: The Full animal ID shall be prefixed with the feedlot registration number on records
- ✓ Earliest dispatch date (90 days from arrival) – MM-DD

➢ BACK

- ✓ Feedlot Number
- ✓ Import Permit Number

- You are free to use the right ear for your own form of identification should you wish to do so.

- Liase with your VA to for assistance with the official identification of your animals.

- Animals should be ear-tagged when they enter into the feedlot and should bear these tags throughout their stay at the feedlot till they get to the abattoir. Ear tags that fall off should be replaced with all the original information.

- The SG-1 Establishment (Export abattoir) SHALL NOT accept your cattle if they do not have the proper official identification for EU beef export purposes.

D. Feedlot Records

- Keep all your feedlot records in hard covered notebooks (preferably 2 or 3 quire) and NOT loose sheets of paper. The records to be kept include the following:

⇨ Animal Data/Identification Records

➢ The animal data record book shall have columns capturing/containing the following information:

- ✓ Date of entry
- ✓ Animal ID number
- ✓ Original ear tag number (for animals that come with ear tags from their farm of origin)
- ✓ Sex
- ✓ Age at entry

- ✓ Dip-tank number of origin
- ✓ Kraal number of origin (ask for this number from the VA at the point of origin when clearing the animals)
- ✓ Entry permit number
- ✓ Animal weight at entry (optional for small holder feedlots)
- ✓ Animal weight at exit (optional for small holder feedlots)
- ✓ Date of exit
- ✓ Exit permit number
- ✓ Destination

⇨ Animal Treatment Records

- ➢ All feedlot animal treatment records shall be kept in a separate hard covered notebook or at the back of the animal data record book.
- ➢ All treatments given to feedlot animals, whether a vaccination, antibiotic treatment, vitamin supplementation or any other shall be recorded.
- ➢ The record should capture the following information:
  - ✓ Date of treatment
  - ✓ Animal Identity
  - ✓ Brief history and diagnosis
  - ✓ Treatment given
  - ✓ Name of person who gave treatment

⇨ Death Records

- ➢ Report all cases of death to the local/Regional Veterinary officials who shall carry out post mortems at all possible times and take necessary samples where indicated.
- ➢ Enter a brief history in the record book indicating the main clinical signs the animal presented before death.

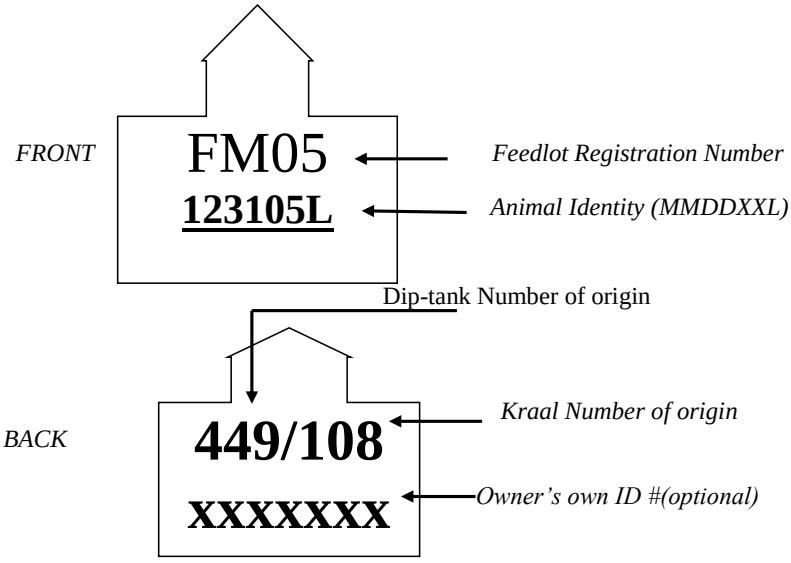
⇨ Visitors' record book

- ➢ Provide a visitors' record book where all visitors should fill in the date they visited, their names, purpose of visit and comments.

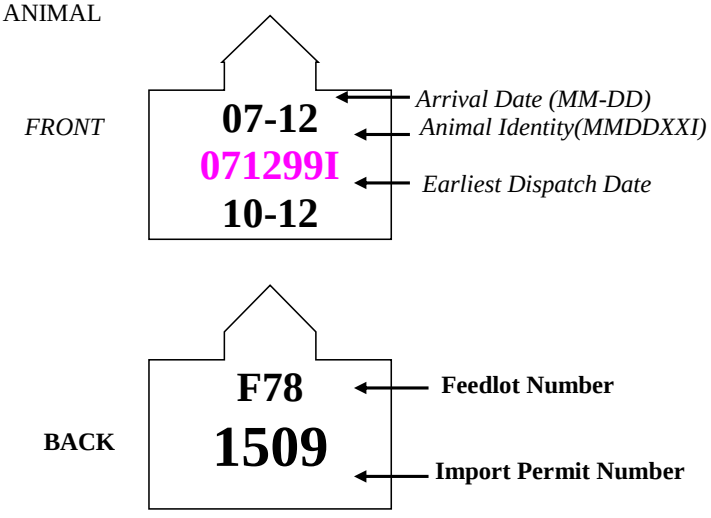
- Keep all the feedlot record books at the feedlot premises and make them available to veterinary officials at all times during routine inspections.

EAR TAGS FOR ANIMALS DESTINED FOR THE EU MARKET

LOCAL ANIMAL



IMPORTED ANIMAL



3. **Animal movement**
   - ❖ Movement of animals from one kraal to your feedlot and from your feedlot to the abattoir requires the local stock removal permits. These are available from your local veterinary office. Make sure that your permits are endorsed by the VA before the animals are moved either to or out of the feedlot.

4. **Use of Growth Promoters and protein of animal origin**
   - ❖ The use of steroidal growth promoters and growth enhancers in feeder cattle, be they in the form of injectables, implants, feed additives or any other form is **NOT ALLOWED.**

   - ❖ The use of protein of animal origin in feeder cattle is **NOT ALLOWED**.

5. **Special Consideration for Cattle importation**
   - ❖ If you consider sourcing cattle from beyond our borders for your feedlot you need to seek permission, in writing, from the Director of Veterinary and Livestock Services.

   - ❖ Approval of such an application follows satisfying some structural specifications on the feedlot structure, which now becomes a feedlot-quarantine and should have:
     - ✓ Double fencing, with the two fences being 10 meters apart.
     - ✓ 'Foot bath' at the gate entrance
     - ✓ Truck washing and disinfection bay

   - ❖ Imported cattle are quarantined for 30 days. They have to remain in the feedlot for a further 60 days for eligibility for the EU export market.

   - ❖ Guidelines on the requirements for the importation of live cattle for feedlot purposes have been provided.

6. **Non-compliance by feedlotters**

- ❖ All feedlot operations are governed by the Animal Diseases Act No.7 of 1965. Therefore, failure to comply with all stipulated terms and conditions is subject to appropriate action in terms of the act; which can range from prosecution, suspension and/or deregistration of their of their feedlots.

- ❖ The exemption from dipping at local dip tank may be revoked at anytime should such action be deemed necessary, and this implies that such a feedlot would be struck off the register.

- Any feedlot that is struck off the register can only resume operation after a written application to the Director of Livestock and Veterinary Services, who shall approve, in writing, after having satisfied himself/herself that the conditions which led to the deregistration have been improved or corrected and the feedlotter is willing to comply.

FEEDLOT REGISTRATION GUIDELINES FOR VETERINARY OFFICIALS

1. **Officers' Communication Protocol in Feedlot Registration**
    - A farmer interested in establishing a feedlot operation may consult any field veterinary official including:
        - Animal Husbandry Officer (AHO)
        - Livestock extension officer (LEO)
        - Assistant Livestock Extension Officer (ALEO)
        - Veterinary Assistant (VA)
        - Animal Health Inspector (AHI)
        - Assistant Animal Health Inspector (AAHI)
        - Senior Animal Health Inspector (SAHI)
        - Veterinary Officer (VO)

    - These officers shall discuss with the prospective feedlotter what cattle feedlotting involves and then refer him/her to the LEO who shall give the farmer the technical advise on the proposed project and actually train the farmer on cattle feedlotting.

    - The LEO shall then inform the VA of the area about the proposed project (even if the farmer claims to have been referred to the LEO by the VA).

    - The LEO shall inform the VA of the date set for touring and seeing the proposed project site and invite him/her.

    - The LEO shall monitor/supervise the construction of the appropriate feedlot stall structure.

    - Upon completion of the appropriate structure, the LEO and VA shall together fill in the **exemption from dipping at public dip tank form** and duly sign it.

    - The LEO shall, in person or through VA, hand over the form to the RVO/VO for authorisation.

    - The RVO/VO shall register the new feedlot and fill in the feedlot registration number on the form.

    - The original copy of the form shall be given to the farmer through the VA, and the sub-regional veterinary office, LEO and RVO should each keep photocopies of the same form.

    - Upon signing the exemption from dipping at public dip tank form, the VO shall inform the VO – Meat Hygiene of the new feedlot and give him/her all the details about the new feedlot.

2. **The Feedlot Register**
    - The RVO shall keep a Register of all the feedlots in that region and VO – Meat Hygiene shall keep a national register for all feedlots in the country

    - The feedlot register shall contain the following information:
        - ⇨ Date of registration
        - ⇨ Feedlot Registration Number
        - ⇨ Name of owner
        - ⇨ Sub-region
        - ⇨ Dip-tank name
        - ⇨ Dip-tank number
        - ⇨ Kraal number

    - The registration numbers for small-holder feedlots shall be of the following format:
        - ⇨ **FM# - Manzini Feedlot**
        - ⇨ **FH# - Hhohho Feedlot**
        - ⇨ **FS# - Shiselweni Feedlot**
        - ⇨ **FL# - Lubombo Feedlot**

Where # shall be chronological numerical figures for each region, thus making each number unique for each particular feedlot.

3. **Pre-requisites for Feedlot registration**

A. The feedlot structure specifications and components

- The LEO shall assist farmers with planning and construction of the appropriate feedlot structure.

- The most important components/specifications of an appropriate feedlot structure shall consist of the following:
    - ⇨ **Floor space**: Gentle sloping ground. Fourteen (14) squares metres per animal.
    - ⇨ **Perimeter fence**: There are two types:
        a) All poles i.e. both vertical and horizontals, with 2.5m between vertical poles.
        b) Made of seven (7) strands of plain eight (8) gauge wire, and **NOT** barbed wire: 2m between vertical poles and 20cm between wire strands.
    - ⇨ **Crush pen**: built of treated poles or alternatively poles of strong indigenous trees with no protruding brunch stumps.
      : 6m long, 1.5m between vertical poles, 4 horizontal poles per side (inside the vertical poles) and 70cm internal width between the horizontal poles.
    - ⇨ **Loading/offloading ramp**: built exactly like the crush pen but on a rising height of one (1) meter at the front to suit the level of the cattle truck for loading/offloading purposed.

- ⇨ **Sufficient clean drinking water**: at least 40 – 50L per animal per day. There should be acceptable evidence that you will be able to provide enough amount of water during the stay of the animals in the feedlot.
- ⇨ **Feeding trough**:- built of 6″ cement blocks; 3 layers on back side and 1 layer on the front
  - 45cm in width and occupying the whole width on the upper side of the kraal
  - very fine finish on the inside with very small drainage hole at the base
  - 3m wide concrete slab in front of feeding trough
- ⇨ **Drinking trough**:- built of 9″ cement blocks on the lower side of the kraal, at least 10m away from the feeding trough
  - 1m long x 0.8m wide x 0.8m high
  - fine finish on the inside and fitted with a drainage valve at the bottom
  - 3m wide concrete slab around the trough
- ⇨ **Store room**: 4m x 5m well ventilated room

B. Dipping Chemicals and Equipment

- Supplies of an appropriate acaricide (dipping chemical) as approved by the Director of Veterinary and Livestock Services and appropriate spraying equipment should be available before the arrival of the animals.

C. Official Individual Animal Identification

These guidelines only apply to those cattle which do not have the individual identification eartag detailed in the document "Swaziland Livestock Identification and Traceability System. Those with the individual eartag no longer need to follow the protocol below.

- All feeder/feedlot cattle shall be individually ear tagged with an official **ear tag,** which shall be **yellow** for locally sourced cattle and **blue** for imported animals.

- The **official ear tag** shall be on the **left ear.**

- The ear tag shall have the following information:
  - ⇨ Local cattle (Yellow Ear Tag)
    - ➢ FRONT
      - ✓ Feedlot Registration Number (e.g. FM55)
      - ✓ Animal Identification number which will be of the following format:
        - MMDDXXL
          - ❖ MM = month of arrival
          - ❖ DD = date of arrival

- ❖ XX = animal number on that particular day (to start from 1 on each new day)
- ❖ L = for 'Local' animal

NB: The full animal identification shall be prefixed with the feedlot registration number on written records (e.g. FM45-123105L = Animal is from Feedlot #45 in Manzini, arrived at the feedlot on December 31st, was the 5th animal to be acquired that day and is of local origin)

- BACK
  - ✓ Dip-tank Number of origin
  - ✓ Kraal Number of origin
  - ✓ Owner's own ID number, e.g. SMI's CPN number (this is optional)

⇨ **Imported cattle (Blue Ear Tag)**

- FRONT
  - ✓ Arrival Date
  - ✓ Animal ID number of the format:
    - MMDDXXI
      - ❖ All same as above
      - ❖ I = for 'Imported' animal

    NB: The Full animal ID shall be prefixed with the feedlot registration number on records
  - ✓ Earliest dispatch date (90 days from arrival) – MM-DD

- BACK
  - ✓ Feedlot Number
  - ✓ Import Permit Number

- Feedlot owners are free to use the right ear for their own form of identification should they wish to do so.

- It is the responsibility of the VA to make sure that feedlot owners do comply with the official identification of animals. The Sub-regional supervisor will ensure the necessary supervision through regular inspections.

- The SG-1 Establishment (Export abattoir) SHALL NOT accept feeder cattle that do not have the proper official identification for EU beef export purposes.

D. Feedlot Records

- All feedlot records shall be kept in hard covered notebooks (preferably 2 or 3 quire) and NOT loose sheets of paper.
  - ⇨ Animal Data/Identification Records
    - ➢ The animal data record book shall have columns capturing/containing the following information:
      - ✓ Date of entry
      - ✓ Animal ID number
      - ✓ Original ear tag number (for animals that come with ear tags from their farm of origin)
      - ✓ Sex
      - ✓ Age at entry
      - ✓ Dip-tank number of origin
      - ✓ Kraal number of origin (ask for this number from the VA at the point of origin when clearing the animals)
      - ✓ Entry permit number
      - ✓ Animal weight at entry (optional for small holder feedlots)
      - ✓ Animal weight at exit (optional for small holder feedlots)
      - ✓ Date of exit
      - ✓ Exit permit number
      - ✓ Destination

  - ⇨ **Animal Treatment Records**
    - ➢ All feedlot animal treatment records shall be kept in a separate hard covered notebook or at the back of the animal data record book.
    - ➢ All treatments given to feedlot animals, whether a vaccination, antibiotic treatment, vitamin supplementation or any other shall be recorded.
    - ➢ The record should capture the following information:
      - ✓ Date of treatment
      - ✓ Animal Identity
      - ✓ Brief history and diagnosis
      - ✓ Treatment
      - ✓ Name of person who gave treatment

  - ⇨ **Death Records**
    - ➢ All cases of death should be reported to the local/Regional Veterinary office.
    - ➢ Post mortems should be carried out at all possible times and samples for BSE detection taken where indicated.
    - ➢ A brief history should be entered in the record including the main clinical signs.
  - ⇨ **Visitors' record book**

- All visitors shall fill in this book indicating the date they visited, their names, purpose of visit and comments.

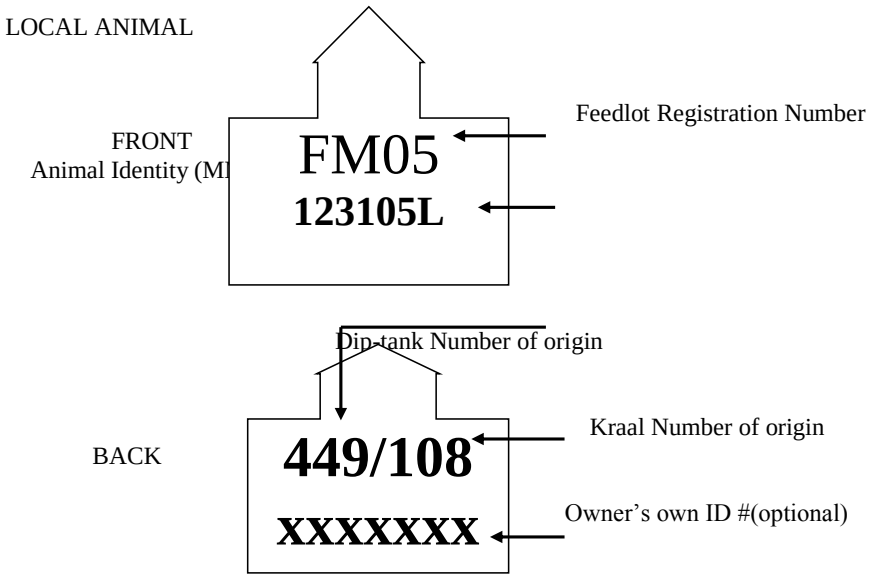
- The feedlot record books shall be kept at the feedlot premises and shall be made available to veterinary officials at all times during routine inspections.

E. Non-compliance

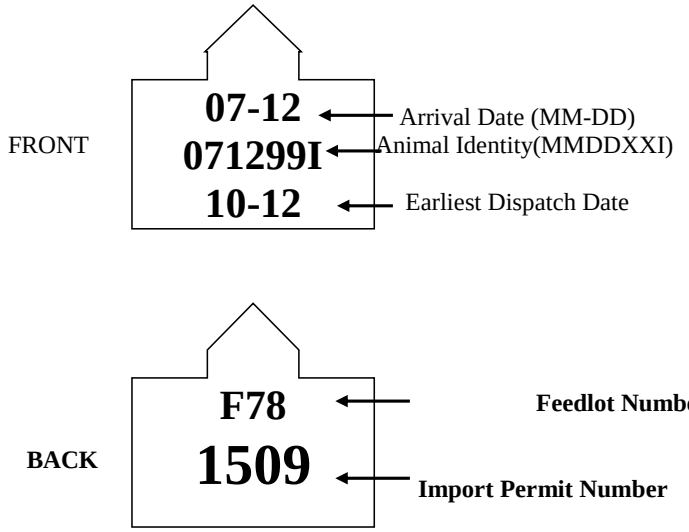
- All persons who do not comply with all laid down conditions should be dealt with accordingly without any hesitation as provided for in the Animal Diseases ***Act No. 7 of 1965***, which shall governs all feedlot operations.

EAR TAGS FOR ANIMALS DESTINED FOR THE EU MARKET

LOCAL ANIMAL



IMPORTED ANIMAL



INSPECTION OF LIVESTOCK HOLDINGS

1. FEEDLOT INSPECTIONS

Type of information and records that officers need to check for:

- Records.
- Structure.
- Animal identification.
- Availability of water and feed.
- Animal welfare issues.
- Check feed formulation.
- Check feed quality.
- Check drugs for expiry and check drug storage environment.
- Check animal condition.
- Check separation of feeds for different species (to separate Meat and Bone Meal, which by law should not be fed to bovines).
- Check if there is Diptank exemption form (to check registration status) authorised and signed by Veterinary Officer (VO).

2. DAIRY INSPECTION.

Type of information and records that officers need to check for:

- Check if authorised by VO (find copy of exemption form).
- Check drugs stores and expired drugs.
- Check quality of feed and feed ingredients and formulations.
- Check cleanliness and hygiene of milking area, milk containers, and refrigeration.
- Check if conditions and procedures specified in the form are being followed.
- Check dairy records.
- Check verification form if signed by Veterinary Assistant (VA) or Dairy Development Officer (D.E.O.) for dipping.
- Check records for evidence of unauthorised use of prohibited or controlled drugs (e.g. for heat synchronisation).
- Check if animals on which prohibited drugs are used have been marked as prescribed in the legislation (Legal Notice 35 of 2006).

3. INSPECTION OF POULTRY AND PIGGERY HOLDINGS, AS WELL AS OTHER LIVESTOCK SPECIES.

These guidelines will focus on Good Agricultural Practices (GAP) issues and shall include amongst others the following which shall be captured by inspecting officials:

√ Animals should be properly housed as per requirements of that practice.
√ Animals should have access to food and water.
√ Housed animals should have sufficient space (ideal stock density), and sufficient ventilation.

- √ There should be an optional hygienic environment (cleanliness).
- √ Check for good record keeping and animal identification (as per ideal practice of that industry).
- √ Check animals for excessive external parasites, disease or illnesses and body conditioning as well as injuries.
- √ Check for records of mortalities and records of disease, drugs (medications) used.

VETERINARY DRUG CONTROL.

√ All veterinary drugs and medicinal substances entering Swaziland should be registered in accordance with specified "Regulations for Veterinary Drugs and Medicinal Substances Control" under the Animal Disease (Amendment) Act No.2 of 1990.

√ All imported drugs falling under the provision of this Act should be accompanied by an import permit issued by an official veterinarian (government veterinary officer) in accordance with specified regulations.

√ Drugs under category 3 of the regulations (which include amongst others anaesthetics, tranquilizers, steroidal anti-inflammatory drugs, contagious abortion and rabies vaccines) should be used under the direct supervision of a registered veterinarian.

√ The use of thyrostatic substances, anabolic hormones and growth promoters is prohibited in food producing animals.

√ There are exceptions for use of the above listed group of substances which include for therapeutic purposes, for synchronisation of oestrus, for termination of pregnancy and for improvement of fertility. Such use should be authorised by the Director of veterinary and Livestock Services (DVLS).

√ The acquisition and use of drugs under category 4 of the regulations is generally prohibited. Examples include FMD vaccine, avian influenza vaccines and growth promoters.

√ Animals injected or treated with hormonal drugs should be permanently marked with a "H" tattoo on the left ear.

√ In the event of an outbreak and where vaccination is considered, all animals vaccinated for FMD shall be branded with a clover hot iron brand on the left hindquarter.

√ Veterinary drug and medicinal substances establishment/dealers are to be inspected regularly according to the provisions of the regulations.

√ All veterinary drug and medicinal substances establishments/dealers operating in Swaziland should be in possession of a valid license issued by the Director of Veterinary and Livestock Services in accordance with the regulations.

DIPPING OPERATIONS

Diptanks by ownership are divided into two types, public and private. These are in two forms, plunge and spray. Most public diptanks are plunge diptanks and are operated by the government. Private diptanks although supervised by the government are privately owned. Cattle dipping occur every 7 days (14 days in the highveld) in summer and every 14 days (28 days in the highveld) in winter.

Registering a diptank

The owner of the diptanks applies for permission to have a diptank to the Chief Animal Health Inspector (CAHI). The owner includes the name of the diptank in the application. The CAHI after considering many factors registers the diptank and give it a number (the number depends on the register of diptanks).

Public dipping (*plunge diptanks*)

The veterinary assistant (VA) is the first one to arrive at the diptank and is assisted by the Dip tank assistant (DTA).

VA does the following:

- Inspects the diptank
- Check the water level. There are 3 capacities in the country, 15000L, 17000L, and 17500L.
- Get the smears from the DTA and record them in the smear book (see chapter on smears)and also enter them in the register (see chapter on register)
- Mix the dipping chemical as per manufacturers instructions e.g. mix 3 kg triatix with 20L water and stir (for a 15000L diptank)
- Pour the solution in the dip at different spots through out the diptank
- Mix the dip (can use a bucket that has holes all over tied to a long wire or strong rope)
- Open the outlet hole next to the steps. This allows the water drained from the dipped animal to go back to the dip.
- About 50 animals are then allowed to go through the dip before dipping starts. This mixes the dip thoroughly. These animals are allowed to go through again for the proper dipping.

The VA then position him/herself at the entrance of the holding pen with the diptank register (see chapter on register) and record the following per kraal while the animals pass by:

- Animals present at the diptank
- Animals absent and reasons for absence
- Extra animals in the herd

Animals are inspected and allowed to dip. They are supposed to stand for a minute in the runway, to allow dripping of excess water.

NB: In some diptanks in Lubombo region, there are stones at the end of the runway. These are for detection of animals with feet lesions (see chapter on FMD).

At the end of dipping the VA:
- Close the outlet hole next to the steps
- Remove hair from the dip (can disturb the dip using a pole, the hair will go to the side and then pick it up)
- Test for sedimentation (can use a pole to measure the depth of the dip)
- Wash the race
- Close the exit of the crush pen

The VA then attends to other issues such as:
- Registering and deregistering of animals (see chapter on register)
- Updating farmers and the diptank committee on animal health issues
- Conducting meetings with farmers
- Attending to sick animals both at the diptank or at the farmers homesteads
- Updating and summarizing the register

Private dipping (*spray race*)
- The farm owner provides the dipping chemical and conducts the mixing and dipping
- The VA keeps the diptank register
- The VA supervises the mixing and the dipping (as above)
- The VA records smears in the smear book and register
- The VA enters animals brought in and animals taken out of the farm

Other dipping
- The VA also supervises dipping in small-scale dairy units, small scale fattening units and government ranches.
- Once a month, the VA inspects small ruminants

DIPTANK REGISTER

Each diptank has a cattle register and small stock register provided by the Veterinary Department. In those diptanks that have goats and or sheep, there is also a small stock register.The register is kept by the VA and inspected by the Animal Health Inspectors (AHI) or Assistants (AAHI).The register must be kept neat, up to date and must clearly show the name and number of the diptank on the cover.

REGISTERING OF OWNERS

Owners of livestock for that diptank are given kraal numbers according to the numbers in the cattle register.

Private diptanks

Where there is only one owner, the kraal number of the owner is **1.** If the owner has more than one kraal in the same diptank, each kraal is given its own number. ***E.g. Mafutseni diptank (432) is a private diptank and has a feedlot, quarantine, SMI feedlot and farm cattle. The feedlot is given kraal number 1, SMI feedlot kraal number 2, quarantine kraal number 3 and farm animals, kraal number 4.***

Public diptanks

These have many owners and when registering an owner the VA:

- Request for a national personal identification number from the owner and put it on the register
- Write the name and surname of the owner in the register (he/she has the sole authority to move animals from his/her kraal).If the owner request that a second person gets authority to move animals from his/her kraal, that person's name is also included in the register.
- Write the kraal number in the register according to the register's numbering

No:	Kraal number	: **Identification No:**	For owner
Name:	Kraal owner's name		

Small scale dairy, fattening units and butcheries

Each of these should be given a kraal number and steps to be followed are as above. However, for each kraal it should be indicated whether it is a small scale fattening unit (by its allocated number (see chapter on feedlots)) or dairy unit or butchery.

Abattoirs
Abattoirs are registered as extensions of the diptank area where they are located. They don't get a kraal number but get the name and number of the diptank but become part C of the diptank. They have their own register. ***E.g. Manzini abattoir is Manzini C (449 C) (Manzini diptank is 449).***

Small stock
Owners are registered as for public diptanks (see above) and each kraal identified as either sheep or goats.

COMPLETING THE REGISTER

The diptank register is as follows:

Date	Calves born	Permit in	Transfers		Permit out	Deaths	On register	Dipped	Remarks
			From	To					

Date: the dipping day
Written in the form day,month,year.

Calves born: the number of calves born for that kraal
Written as CBM for male calves (eg CBM 2 if two were born) or CBF for female calves (e.g. CBF 1 if one was born).

Permit in (PI): the number of animals allowed in the diptank for that kraal

Number of animal permitted in Stock removal permit number
Diptank of origin

5 2345
449

Five animals were permitted in using stock removal permit 2345 and they were from Manzini diptank (449)

Transfers: the number of animals moved from or to that kraal from other kraals in the diptank

Fromm Number of animal transferred
Kraal of origin

1
2

One animal was added from kraal number 2

	Number of animal transferred Kraal of origin 1 2
To	One animal was moved to kraal number 2

Permit out: the number of animals allowed out of the diptank from that kraal
Permit out (PO): the number of animals allowed out of the diptank for that kraal

Number of animal permitted out	Stock removal permit number Diptank of origin
2	7896 432

Two animals were permitted out using stock removal permit 7896 to Mafutseni diptank (432)

Deaths: the number of animals that died in the diptank
Written as D for those that died of diseases and K for those that were slaughtered.

On register: the number of animals registered for that kraal

On register = On register (last dipping) + Calves born+ Permit in + Transfer from – Transfer to – Permit out - deaths

Dipped: the number of animals presented at the diptank for that kraal

Dipped = On register + Extra – Absent(S,CC,L) – Missing

Remarks: State the number of missing, absent, sick, calving and extra animals.

Missing an animal is declared missing after being absent for 8 weeks. Write the description (colour, sex, age) at the top of the register page for that kraal. Record as **M**.

Absent an animal that is not presented at the diptank that dipping day and its whereabouts are not known. Record as **A** with a description. Then charge the farmer for failure to dip stock (see chapter on prosecutions)

Sick an animal that is absent because it is sick. Record as **S** with description. Then go to the farmer's home to check the animal. Examine the animal and advise farmer about treatment options.

Cow Calving an animal that is absent because it is calving. Record as **CC** with description. Ensure that it is indeed a female animal. Expect the calf the following dipping day.

Lame animal that is absent because it cannot walk. Record as L and description. Then go to the farmer's home to check. Examine the animal and advise farmer about treatment options.

IT MIGHT BE FMD!

Extra an animal that presented at the diptank and does not belong to that diptank. Record as **Ex** description and advise farmer on Regulations governing stray animals (see Pounds Act, No.24 of 1966)

```
1MRWC   1missing red and white cow
1ABrC   1 absent brown cow
1ASRC   1 absent, sick red cow
1CCBC   1 cow calving black cow
1ALBlWH 1 absent, lame, black and white heifer
1ExRox  1 extra, red ox
```

Other

In the remarks column, write all other things done in the diptank like:

- ☐ Vaccinations .If vaccinated for CA, write CAV with a red pen next to the CBF vaccinated. For any other diseases, write *umpteen vaccinated against whatever disease*. Include the name of vaccine, manufacturer, batch number and expiry.
- ☐ Castration. Write the number castrated
- ☐ Dewormings, Write the number dewormed and the remedy used.
- ☐ Treatments. Write disease treated for and number treated with drugs used.
- ☐ Remarks from Diptank inspection by AHI (see chapter on diptank inspection)

PROSECUTIONS

These are the legislations used in the supervision, harmonization and control of animal health and products of animal origin:

1. Animal Diseases Act, No.7 of 1965
    a. Stock Diseases Regulations No.7 of 1965(1) (H.C.N. 173 of 1933)
    b. Importation of Stock Regulations No.7 of 1965(2) (H.C.N. 215/1937)
    c. Branding and Marking of Stock No.7 of 1965(3)
    d. Prohibition of Use of Anabolic Hormones and Thyrostatic Substances 1990 (ammedment)
2. Great Stock Brands Act, No.64 of 1937
    a. Appointment of Inspectors of Brands No.64 of 1937(1) (G.N.9/1949)
3. Livestock Identification Act (replaces the Great Stock Brands Act)
4. Public Health Act, 5/1969 enforced by Ministry of Health and Social Welfare
5. Veterinary Public Health Bill (draft) to compliment Public health Act
6. Importation of Bees Act, No.16 of 1910
7. Cattle routes Act, No 15 of 1918
8. Registration of Pedigree Livestock Act, No11 of 1921
9. Cattle Dipping Charges Act, No.46 of 1950
10. Registration of Dogs, Act No.83 of 1953
11. Cruelty to Animals Act, No.43 of 1962
12. Pounds Act, No.24 of 1966 *(amended P.3 of 1961 and P.13 of 1962)*
    a. Pounds Regulations No.24 of 1966(1) (G.N.4 of 1932)
13. Dairy Act, No.28 of 1968 enforced by the Dairy Board
    a. Dairy Regulations No.28 of 1968(1) (H.C.N 186/1941)
    b. The Manufacture and sale of Dairy Products Regulations, 1962 No.28 of 1968(2) (G.N. 58/1962)
14. The Urban Government Act, 8/1969 enforced by the Ministry of Housing
15. Various Directives issued in terms of the Animal Disease Act No.7 of 1965
    a. Directive No.2/2005 : CI Branding of cattle imported into Swaziland, specification of Types of ear-tags, record keeping and Identification of feedlot cattle
    b. Directive No-------: Banning of feeding of MBM
    c. Directive No.------: Ports of entry

As an EU beef exporting country, **EU Council Directives and Decisions** are extensively used. Policy issues and strategies are articulated in detail in various documents, which are extensions of the primary National Policy Documents, **The Livestock Development Policy for Swaziland (LDPS), 1995**.

How to prosecute

When any of the above is violated the VA informs the farmer about the offence he/she has committed. He/she charges the farmer using the relevant Regulation (section of the Act). He/she completes the "prosecution form" in duplicate during office day (Friday). The duplicate is left in the prosecution book. The form is endorsed by his /her supervisor

and then submitted to the police for prosecution. The farmer is advised to submit receipt of payment of fine and this is recorded in the prosecution book.
NB: All prosecutions should be included in the AHI monthly report, stating the number of cases prosecuted and fined and the number of cases still pending.

A farmer is given a month to submit receipt of payment. After a month, the Inspector has to make a follow up with the police regarding the matter.

COMMONLY ENCOUNTERED PROBLEMS IN THE FIELD

a. Failure to Dip Stock
When a farmer fails to present or dip his stock, the VA records the stock as absent in the cattle register (see chapter on diptank register). He/she then informs the farmer about the law that the farmer has violated. The farmer is then charged using Regulation 11 or 14 of the Stock Diseases Regulations.

b. Moving stock without a movement permit
When a farmer present stock not registered in the diptank for dipping without an endorsed legal and valid movement permit, the VA records the animals as extras in the cattle register (see chapter on diptank register). He /she then inform the farmer about the law that the farmer has broken. The farmer is then charged using Regulation 38 (*for local stock*) or Regulation 6 (*for imported stock*) of the Stock Diseases Regulations.

For local stock, the farmer has to get the required permits and the animals registered as PI in the cattle register (see chapter on diptank register). For imported stock, the diptank is placed under provisional quarantine using Regulation 20 of the Stock Diseases Regulations while the matter is still investigated (**involve the police, they maybe stolen!!**).

The imported stock must be removed to the government quarantine and the required permits obtained. The animals must be tested for the diseases as stipulated in the import permit.

c. Failure to submit organ smears
When a farmer fails to submit the required specimen of his/her dead stock to the DTA (see chapter on smears), the VA records the stock as missing in the cattle register (see chapter on diptank register). He/she also indicates that the farmer has reported the animal dead. When the AHI/AAHI inspects the register (see chapter on inspection), he/she permits the deregistering of the stock. The stock is recorded as PO (*with remarks: see missing*) in the register. The farmer is charged using Regulation 18 of the Stock Diseases Regulations.

d. Failure to bring stock for vaccination
When a farmer fails to present his/her stock for scheduled vaccinations (e.g.Contagious Abortion or rabies for dogs), the VA informs the farmers about the law he/she has

violated. He/she charges the farmer using Regulation 16 of the Stock Diseases Regulations.

e. Failure to report disease or death from disease of stock

When a farmer fails to report to veterinary officials, the occurrence or suspected occurrence of a disease in his/her stock, the farmer is informed about the law he/she has broken. He/she is charged using Regulation 19 of the Stock Diseases Regulations.

f. Removal of cordon fences or gates

Any person who accidentally damages any part of the cordon fences is required by law (Regulation 37 (16) of the Stock Diseases Regulations) to repair the damage in the speediest manner possible. Any person who willfully injures or removes the fences should be prosecuted.

g. Refusal to brand or mark stock

When a farmer or person in charge of stock refuses to brand or mark stock or assist in the branding when called upon by an official appointed by the minister, he/she is charged using Regulation 36 of the Stock Diseases Regulations.

SMEARS

For every cattle that dies (of diseases or slaughtered) farmers are required by law to submit the following organs to the DTA (***this is a community member chosen by the community of that diptank area***):

- ☐ Spleen
- ☐ Last rib
- ☐ Prescapular lymph node

The DTA make smears of these organs on a slide as follows:

1. Cut open the rib on the softer cartilaginous part
2. With pliers press hard on the rib until the bone marrow oozes out
3. Put a drop of that on one side of the slide
4. Spread the contents on the slide using another slide
5. Leave it to air dry
6. Wrap the slide with the fully completed "Libito"
7. Present the slides to the VA at dipping day

In case of private diptanks and government ranches, the owner/ manager is responsible for the smears.

Libito

This is in Siswati and requires the following:

1. Name of the diptank and its number
2. Name of the farmer
3. Kraal number
4. Date of the death of the animal
5. Was the animal inspected by veterinary officials?
6. Description of animal (age, sex)
7. Colour of animal
8. Cause of death
9. If it was sick, what were the clinical signs observed
10. Who reported it?
11. Name of the person completing form

At the diptank

The VA transfers the information on the "Libito" to the **Blood smear forms**. He/she records the death in the cattle register. All animals that died after being sick are recorded as **D** and those slaughtered as **K** (Ks – killed for sale and kh – for home consumption). Smear forms with no slides are recorded as **NS**. The animal is given a reference number. The number is given in a chronological order based on when it died. The numbers start from 1 at the beginning of each year. The animal must be described and the date of death included. The reference number also goes to the smear form.

D 12/06 Dead red cow on 10th of October 2006 (12th animal to die in the diptank)
RC10/10

K 11/06 Killed red cow on 10th of October 2006 (11th animal to die in the diptank)
RC10/10

NS 12/06 No slide red cow died on 10th of October 2006 (10th animal to die in the diptank)
RC10/10

The VA wraps the slides with the smear forms and submits them to the Smear Lab. The smears must be recorded in the Smear Register in the Vet Office on Friday.

SMEAR REGISTER

In the Smear Register, each diptank in the subregion appears at the top of the page. Under each diptank record smears as follows;

1. Writ
2. the date in which the smears are recorded and for each smear;
    a. Write how the animal died (was it slaughtered or it died of disease)
    b. Write reference number of animal (as in the smear form)
    c. Write color and age of animal
    d. Write date of death
    e. Write kraal number of owner
3. The animal could have either died of diseases recorded as **D**, killed for home consumption recorded as **KH** or killed for sale, recorded as **KS**
4. Calves are denoted as either **Hc** for heifer calf or **Bc** for bull calf. An ox is denoted as **ox**, Cow as **C**,bull as **B**, heifer as **H**, Bullock as **Blk** and steer as **steer**.

LWANDLE T/A 480				
30/03/07	54 D36/WHc 22-03	76 D37/RBc 27-03	35 KS38/BWC 30-03	136 KH40/Brox 30-03
Date in which smears were recorded	White heifer calf that died of disease on the 22/03/07 and was the 36th animal to died in the diptank and belongs to kraal 54	Red bull calf that died of disease on the 27/03/07 and was the 37th animal to died in the diptank and belongs to kraal 76	Black and white cow killed for sale on the 30/03/07 and was the 38th animal to died in the diptank and belongs to kraal 35	Brown ox killed for home consumption on the 30/03/07 and was the 40th animal to died in the diptank and belongs to kraal 361

DIPTANK INSPECTIONS

AHI and AAHI are required to inspect or audit diptanks operations. An AHI/AAHI has to inspect at least 8 diptanks in a month.

Inspection at diptank

1. The AHI/AAHI arrives at the diptank to be inspected before the VA mixes the dipping chemicals.
2. He/she checks
    a. Diptank structures (holding kraals, races etc)
    b. Water level in the diptank
3. Observes the mixing procedure of dipping chemical
    a. Check if chemical used is the correct one
    b. Check number of animals used to mix the dip
4. He/she checks if smears have been recorded in smear book and register
5. He/she checks Stock Removal Permits against the register's PI
6. He/she inspects cattle as they move through the crush for
    a. Tick load
    b. Lameness
    c. Any other suspicious signs
7. He/she notes the number of absentees in each kraal
8. He/she observes the VAs public relations
9. He/she takes smear book, cattle and small stock register to office after dipping

Inspection at office

For each kraal number check if the figures balances.The sum of Previous total + Calves born + PI +Transfer from – PO –DK – Transfer to, must equal to Registered. If they don't, check for mistakes and make corrections with red pen. Record findings in the remarks column of the register. After checking, record corrected figures in the checking register at the office.

Checking register

The checking register must have an index page where all diptanks in the subregion are listed with their page numbers and date in which they were inspected.

The following are recorded per kraal for each diptank
1. Kraal number
2. Previous total (Prev)
3. Calves born (CB)
4. Permit in (PI)
5. Permit out (PO)
6. Animals moved from another kraal to kraal above within the diptank (from)
7. Animals moved to another kraal from kraal above within the diptank (to)

8. Animals that died and or killed (DK)
9. Total registered animals (Reg)
10. Information on missing ,absent or extra animals (remarks)

When all the kraals have been recorded, write the number of smears from the smear book. The total must equal the total of the DK.

Discussion with VA

The AHI discusses his/her findings with the VA and records them in the checking register.

HANDLING OF STRAY BOVINES AT DIPTANKS

What is a "stray" animal?
This is any animal that is presented at a diptank area (TA) without a movement permit and has not been previously registered at that TA. This means the animal is not known or have no owner in that particular TA.

A "stray" is not designated anywhere in the diptank register as such but is recorded as an "extra" in the TA register where it is presented under the particular kraal where it is presented.

Handling of strays
When a bovine known or unknown to the kraal where it is presented appears during dipping, the Veterinary Assistant (VA) will do the following:

- He/she will enquire from the owner of the kraal (or representative of the owner) why there is/are extra animal(s) in that kraal.
- He/she will record the number of animals extra in the remarks column of the register by putting an 'E' next to the number and describing the animals e.g. 2E brwh, bwb meaning two extra animals one brown and white heifer and the other a black and white bull.
- The remarks column is filled irrespective of whether or not the animal is known to belong to the same diptank area (TA) or another diptank.
- If the animal(s) is/are known to belong to another kraal in the same TA this is noted by the VA by writing "see kraal X" where "X" is the original kraal number where the animal(s) belong. In this kraal of origin, the animal(s) is/are recorded as missing in the remarks column.
- If the explanation by the presenting kraal owner is that the animal(s) is/are unknown and it appears to be unknown to the diptank committee members or anybody else the VA has a responsibility to note this so that he/she can ask about the animal at the next dipping.

When during the second and maybe third dipping the same animal(s) is still present at the same or other kraals and is still unknown, the VA has to do the following:

- Alert the diptank committee members that the said animal(s) is now designated as a "stray". However, in the remarks column the animal(s) continues to be recorded as "extra(s)".
- Decide with the committee who they can ask to look after the animal(s), be it the kraal of presentation or any other kraal owner. In this case the important thing is to make sure the animal(s) is in responsible hands.
- Notify the office where there are records of stray animals with the AAHI or AHI
- Continue to record the details and description of the animal(s) in the remarks column.

- The time between first presentation and when the animal is designated as a "stray" depends on the history of the animal and means and developments in tracing it to the owner and also how frequent the dips are. If dipping occur every 7 days the animal may be considered a "stray" after 21 days (4 dips) onwards to 40 days (5 or 6 dips) but if dipping occurs after every 14 days or 28 days the animal may be considered a "stray" after 28 days (3 dips in case of 14 day dipping interval or 2 dips incase of 28 days dipping interval) onwards to extremes of 42 days (4 drippings) and 56 days (3 dips incase of 28 days dipping interval).
- The VA and committee have to try all necessary means to notify nearby TAs from which the stray animal might have come from. This would normally happen after the 2nd or 3rd presentation of the animal depending on dipping interval.
- Normally it is advisable for VAs to follow animals suspected to be "strays" or animals unknown in the diptank or animals which keep on appearing under kraals as extras.
- Once a particular kraal owner has been tasked with looking after the animal he/she has to account for the animal until notified further by the VA via confirmation of action from the veterinary office i.e. supervisors of the VA (AAHI or AHI).
- If "stray" animal(s) or "extra(s)" returns to the original kraal(s) on their own or is/are eventually claimed by the owner(s) registered in the same diptank at anytime the only adjustment made is in the remarks column where the number of extras is decreased by the number of the animals meanwhile the same happens for the missings in the kraal of origin.

After three months when there has not been any legitimate claim on the animal, the VA will once again notify the veterinary office (AAHI or AHI) about the "stray" and that all necessary means to notify nearby TAs have failed to yield results and the following actions will then be taken:

- The AAHI or AHI will give direction as to how the animal(s) is/are moved to the nearest pound. The VA, committee and the kraal owner looking after the animal(s) are all involved and/or informed.
- A permit to move the animal(s) is issued by the AAHI or AHI and the custodian working with the committee facilitate movement of the animal to the pound.
- The Pound Regulations under section 48 of Act 24/1966 states that the poundmaster may be authorized by the District Officer to conduct the sale of the stock at the farm (or TA) if it is not possible to take the animal to the nearest pound.
- The AAHI or AHI will make the necessary adjustment on the stock register to show that the 'extras' (E) shown under the remarks column of the book under which the "stray" appeared has been permitted out to the pound by permit number (xxxxx). The VA is not supposed to do this adjustment.
- The poundmaster on receipt of the animal(s) record them in a poundbook and follows all regulations guiding the operation of the Pound as stipulated under section 48 of Act 24/1966. This Act requires the poundmaster to publish a notice of sale at least twenty-one days before the sale is held. Such notice shall have a sufficient description of the animal(s) to be sold and where the auction sale shall

take place. For donkeys the sale should be held not less than 12 days after the notice of sale.

- At the pound an animal(s) is/are required to go for public auction within a period of fourty-two days from the date of entering the pound. Donkeys are required to be advertised for auction within 2 days after entering the pound.
- The poundmaster shall pay any driving fees as were incurred during the transport of animals to the pound to the person responsible for taking the animal(s) to the pound. Any other claims by the former custodian of the "stray" animal(s) are subject to the Act governing operation of Pounds.
- If it so happens that an owner(s) of the animal(s) come to claim with the poundmaster before the sale of such animal(s), the poundmaster will release the animal(s) after receiving payment for any costs incurred as per the law or in failure of payment is entitled to retain only those animals as are sufficient to meet the management costs. All movement permit requirements should be observed and monitored by the AAHI or AHI.
- On the day of the auction sale the AAHI or AHI responsible for the pound is supposed to be present and permits are issued as the animals are to be moved. The Government Stock Inspector (AAHI or AHI) is responsible for monitoring the pound book (stock register) as often is necessary and to make sure all appropriate laws and regulations are followed at the pound.

Handling claims of a stray animal at diptank level

- If the animal(s) is/are identified to be from another TA the people claiming the animal(s) should provide a full description of the animal(s) to the VA and the AAHI or AHI at the veterinary office.
- The VA of the TA where the animal strayed to then has the responsibility to contact the VA of the TA of origin to verify if such animal(s) as is/are described appear in the TA of origin register and have been reported missing.
- Whether the owners of the strayed animals have found the animals themselves or through other means, the two VAs have to be involved and agree on the dates they went missing, the dates of first dipping at TA where they have strayed to, and the description of the animals. All this is done at the office with the AAHI or AHI involved.
- The claimant will then have to go to the TA where the unknown animal is and inspect all the animals entering the dip-kraal and eventually point out his/her animal among the others in the diptank. All previous explanations and descriptions of the animal(s) should tie.
- Movement permit(s) is/are necessary when the animal(s) is/are moved from the current TA to the TA of origin. Corresponding adjustments will then be made by the VAs in both diptank registers when they permit the animals in with comments to indicate they were strays.

Note:
Once branding of cattle has been done at diptanks, it will be much easier to deal with strays, because the TA of origin will be known (through the TA brand on the animal) even if the bovine animal had gone to other diptanks besides the diptank where it was branded, the records will reflect as such and traceability is possible.

LIVESTOCK MOVEMENT WITHIN COUNTRY

A. CATTLE MOVEMENT

The Swaziland Livestock and Information System which has been launched in March 2013 has enabled easy movement of cattle within the country. With the computerization and networking of veterinary offices in the country, the movement of cattle can now be traced from their diptank of origin to the destination diptank with ease. Movement of cattle within the country is now done using the new system. However some offices are not yet networked, and some diptanks have not been eartagged. The movement of such animals will be done by the old manual system

LOCAL MOVEMENT

This refers to movement of animals from one diptank to another within the same region. A stock removal permit must be acquired before such movement from the designated Veterinary Offices.

The Stock Removal Permit

A veterinary official writes the permit and the following are required:

- The applicant must be over 21 years and must produce a nationally recognized identification
- The applicant need not be the owner of the animals moved but is held liable to any irregularities that occur with respect to the permit
- The permit is valid for 7 days in summer and 14 days in winter except in the highveld where it is respectively 14 and 28 days
- The applicant must supply the office the eartag numbers of the cattle he/she wants to move
- The permit is completed in the computer where information about the cattle to be moved is filled, including their eartags numbers.
- The permit must be issued and signed by any senior Veterinary Official above the rank of Veterinary Assistant
- The original and duplicate are given to the applicant
- The triplicate is sent to the destination diptank subregional office
- The quadruplicate remains in the office issuing the permit

Completing the Stock Removal Permit

1. Get the Id from the applicant and write down his/her name and surname. Make sure that he/she is over 21years
2. Write the number of animals being moved preferably in words and numerically. You want to be sure that the applicant does not change the figures

3. Write down the diptank of origin and the Tank area code
4. Write down the name, surname and kraal number of the owner of the animals at the diptank of origin
5. Write down the region where the diptank of origin is located
6. Write down the destination diptank and Tank area code
7. Write down the region where the destination diptank is located. In this case it must be the same as the one for the diptank of origin
8. Write down the name, surname and kraal number of the person receiving the cattle at the destination diptank.
9. Write down the eartag number of the cattle to be moved.
10. Write down the means of transport (e.g. mechanical)
11. Put down the validity date, 7 days in summer and 14 days in winter from the date of issue
12. After the veterinary assistant has finished filling athe appropriate information, he/she save it and the permit is then issued by any veterinary official who is above the rank of veterinary assistant.
13. The permit is then printed and signed by the issuing officer.
14. Stamp it with the official date stamp
15. Give the applicant the original and the duplicate
16. Register permit in the office register book
17. Send triplicate to destination diptank subregion office

Diptank of origin

Animals are de-registered on the dipping day by the VA in charge of that diptank.

- The owner must present a valid original and duplicate Stock Removal Permit.
- The owner presents the animals identified in the stock removal permit to the VA in the presence of diptank committee and only those identified in the permit can be moved.
- The VA inspects the animals as to good health and fitness to travel, and ascertain if they are the ones in the permit.

De-registering animals

- Tick the identities of the animals to be moved from the list. Write down your name and surname
- Write down the exact number of animals being moved
- Write down the date
- Sign the permit
- Give the original permit to the applicant to accompany the animals and keep the duplicate
- Deregister the animals from the diptank register under permit out (PO) (see chapter on register)
- Reconcile office register

Destination diptank

Animals are inspected and registered on the dipping day by the VA in charge of that diptank.

- The owner must produce the original Stock Removal Permit endorsed by the VA of the diptank of origin
- The owner must identify animals to be registered which their identity should be the same as those listed in the stock removal permit endorsed by the VA of the diptank of origin.

Registering animals

- Check that animals presented correspond in quantity and identity of those listed in the Stock Removal Permit. Ensure that the copy is the original.
- Inspect the animals as to good health and condition
- Fill in your name and surname in the permit
- Write down the exact number of animals that arrived and the date
- Sign permit
- Register the animals in the diptank register under permit in (PI) quoting the permit number, Diptank of origin code (see chapter on register)
- File the permit and present them to your supervisor when inspected (see chapter on inspection)
- Reconcile office register on a Friday

Office Stock Register

Date	Permit No	Applicant	Owner origin	Diptank and No	Owner destination	Diptank and No	Region	No of Stock	PO	Date	PI	Date

Date the date the permit was written
Permit No the serial number of the permit
Applicant the person written on the permit
Owner of origin the owner of the animals at the diptank of origin
Diptank/No Diptank of origin
Owner destination owner of animals at destination diptank
Diptank/No destination diptank
No of stock number of stock in the permit
PO actual number of stock moved
Date date the stock is deregistered in diptank of origin
PI actual number of stock entering destination diptank
Date date the stock is registered in destination diptank

INTER-REGIONAL MOVEMENT

This refers to movement from a diptank in one region to a diptank in another region. Since all the veterinary offices in the country are computerized and networked, the **No Objection Permit** is nolonger necessary. The procedure to be followed here is the same as in the local movement.

Stock Removal Permit

Processing of the Stock Removal Permit is similar to that for **Local Movement.**

B. SHOATS MOVEMENT

Local and inter-regional movement of shoats is similar to that of cattle.

C. PIGS MOVEMENT

Local and inter-regional movement of pigs is similar to that of cattle except for the deregistering and registering of pigs. Pigs at the moment do not have a diptank register, so they are not registered at the diptank.

D. DIPTANKS UNDER RURAL DEVELOPMENT AREAS

The following diptanks under the Manzini subregion are under the rural development scheme and as such, their stock population is controlled;

	Diptank	**TA #**
1	Ephowe	414
2	Kommiesneck	417
3	Logoba	448
4	Maholwane	579
5	Malunguza	589
6	Mampondweni	427
7	Mdlebeni	788
8	Mphembekati	440
9	Mtilane	439
10	Ngabezweni	807
11	Nkonkwane	154
12	Sigombeni	428
13	Sihhohhweni	429
14	Zombodze	438

No objection permit from RDA

PERMIT

This permit is granted to……
to bring……head of goats/cattle
from this……T/A to……T/A

Signature
Project Mananger

Applying for a stock removal permit for moving cattle, goats or sheep (local or interregional) into these diptanks requires the acquisition of a no objection permit

from the Rural Development Area (RDA) first. A note from the diptank committee to allow entry is required to get the no objection permit from the RDA.

Cattle not yet in the SLITS system move within the country using the old manual system described in older versions of the GNVS.

TRUCK WASH GUIDELINES

Purpose:

- To ensure that the Operator's are following the cleaning procedure in order to reduce micro-organism on the equipment.

Where to start and stop:

- Start after the truck had offloaded the animals

Equipment:

- Diluted soap.
- Broom
- Foaming Machine

Procedure:

- Rinse off dung using a hose pipe and broom.
- Spray vehicle inside and outside with foaming machine
- Rinse off with water.

Cleaning time.

- After the truck had offloaded the animals.

Verification of cleanness and corrective action.

- Randomly check if cleanness is done perfect and take prompt correction to areas that Truck Operator might have not cleaned them properly.
- Ensure that the truck is cleaned before leaving the premises

VETERINARY PUBLIC HEALTH /MEAT HYGIENE SECTION

1. CHECKING CATTLE PERMITS AND PEN CARDS

Items To Be Checked:

1. Import permits / Vet. Health Certificate/ RSA Stock Removal Permit (SRP)
2. Customs official endorsement, number of cattle permitted out.
3. Stock movement permit must state that the cattle come from the area specified in the import permit.
4. Full compliance with conditions on import permit & seal numbers
5. Validity of stock removal permits for locally sourced cattle.
6. Number and Name of Dip Tank of Origin/Destination
7. Signature and official stamp of authorized person
8. No. of cattle arriving against no. of cattle permitted out
9. Cattle identification list at back of permit (color, sex , E/Tag numbers)
10. Check vehicle registration number
11. Name of producer
12. Check number of cattle in each pen Card Vs actual number of cattle in the pen.
13. Check time and date of cattle arrival

CORRECTIVE ACTION:

1. Any problems encountered must be communicated to the PMI, Official Veterinarian and relevant RVO.
2. Animals should only be slaughtered if all anomalies in permits and pen cards have been adequately addressed.
3. The veterinary assistant and farmer concerned should be summoned to make/ provide information to make the necessary corrections.
4. Animals without the necessary paperwork i.e. Stock Removal Permit (SRP) should be rejected immediately and not slaughtered on the premises.
5. An animal which is not correctly identified on the SRP and whose identity or origin cannot be fully determined or which spends at least 48 hrs without it being identified will be immediately downgraded to local after eventual slaughter.

2. OFFLOADING CATTLE ON ARRIVAL AT SMI:

Items To Be Checked:

1. Check and break Seal numbers
2. Check for presence of official Ear Tags on Left ear
3. Count number of cattle and reconcile against those on permit
4. Check and reconcile Seal numbers for imports before off loading.
5. Look for obvious clinical signs or animal welfare anomalies
6. Inspect condition of the cattle truck and ensure that it is washed and disinfected before departure.
7. Make sure cattle have access to water
8. Make sure cattle are penned in clean pens
9. Check for CI brands on imported Cattle

10. Isolate those showing abnormalities

CORRECTIVE ACTION:

1. Cattle not complying with import conditions may not be returned to farm of origin, instead disciplinary measures/charges preferred against the culprits in terms of the Animal Disease Act 7/1965.
2. No animal should be slaughtered without an ear tag. An animal whose ear tag is missing should be issued with a relevant ear tag, after its identity has been confirmed.

3. EXAMINING PENNED CATTLE:

Items to Be Checked

1. Check for presence of official Ear Tags (Yellow/Blue)
2. Check for Ear tag data – Local cattle/Imported cattle
3. Check for presence of CI Brand if imported.
4. Check for presence of external parasites
5. Check for obvious clinical signs (sick/injured/vicious /fighting)
6. Check for animal welfare issues;
    i. Level of water in troughs
    ii. Overcrowding in pens (max 15 animals)
    iii. Condition of cattle

CORRECTIVE ACTION:

1. Isolate all cattle showing clinical signs before slaughter, put in the sick pen for closer examination.
2. Isolated cattle must be slaughtered last.
3. Report any significant findings to the SMI Management
4. No Verbal communication, use written & signed instructions.
5. Any animal which is found to be sick (shows clinical signs) or severely injured and is eventually isolated should be downgraded immediately to EU non-eligible/local sales.
6. Any animal that is subjected to emergency slaughter should be immediately downgraded to local/ EU non-eligible.

4. CHECKING PEN CARDS

Items to Be Checked

1. Check no of cattle in each pen card against no of cattle in the pen.
2. Check sex status of cattle recorded on pen cards

3. Check time and date of arrival of cattle.
4. Cross check name of producer.
5. Check correctness of comments made by company official.
6. Record any abnormality discovered during ante mortem inspection
7. Instructions must be written and signed for by both company and veterinary officials
8. Record and communicate any abnormalities to SMI Management and Veterinary officials.

CORRECTIVE ACTION

Any discrepancy or anomaly observed when checking pen cards should be recorded and corrected.

5. THE STUNNING AREA:

Items to Be Checked

1. Company employee must check all cattle going for stunning and make sure that each one has an Ear Tag number
2. No animal without an Ear tag number shall be allowed into the stunning box
3. Cattle identification details on Ear Tags must be correctly entered into the Stunning Record Book.
4. Isolated cases to be killed last in the Stunning Record Book. (Referral note made in cases where cattle were separated from original pen.
5. Company supervisors and Veterinary Officials will reconcile data on pen cards, permits and Stunning Record Book.
6. Double or multiple stunning should be recorded
7. All stunned animals should be examined for FMD

CORRECTIVE ACTION:

1. Cattle with no Ear Tags must be returned to Isolation pens. Consult procurement officer or farm of origin to find out the lost identity of the animal.
2. If any animal shows suspicious FMD lesions, immediately stop the line and call the VO or SVO. In their absence, call the nearest government veterinarian.

6. POST MORTEM HEALTH INSPECTION:

Post Mortem Health inspection entails the visual inspection of the carcass and body organs, palpation, incision of certain body organs and lymph nodes, laboratory investigation and confirmation. The detailed procedure for post mortem inspection is carried out according to Article 2, Chapter VII paragraph 40(A) of Directive 64/433/EEC as amended.

CORRECTIVE ACTIONS

1. Any carcass (or organ) that is condemned due to a pathological condition should be clearly marked and separated from all other meat that is fit for human consumption.
2. Any carcass (or organ) that is detained for further investigation should be immediately downgraded to local/ non-EU eligible irrespective of the outcome of the investigations.
3. All measles carcasses should be immediately downgraded to local/ non-EU eligible.

7. DOWNGRADING OF CARCASSES

INDICATED IF IT IS;

- Derived from cattle which are dead before slaughter.
- Derived from cattle affected by a generalized disease.
- Not conforming to microbiological criteria laid down under Community Legislation.
- Exhibiting heavy parasite infestation.
- Containing residues or contaminants in excess of levels laid in Community Legislation.
- Derived from cattle that have been treated illegally with forbidden substances.
- Containing foreign bodies.
- Indicating patho-physiological changes, abnormalities in consistency.
- Derived from emaciated cattle.
- Showing soiling, feacal or other contamination.
- Problems in maturation.
- Unauthorized removal of carcasses from export chillers.
- Tampering/ unofficial breaking of door seals at an export chiller.

8. IMPLEMENTATION OF THE E.U APPROVED RESIDUE CONTROL ANNUAL PLAN FOR SWAZILAND.

1) Preamble

The competent veterinary authority of Swaziland represented by the Directorate of Veterinary and Livestock Services is mandated to ensure that the consumer is protected against potentially harmful residues of veterinary medicines. The Directorate operates a statutory program, which implements the E.U legislation and provisions as set out in Council Directive 96/23/EC. Currently the program covers only fresh red meat exported to the E.U.

2) Official Services in charge of Residue Monitoring

There are two official posts for Veterinarians, a team of 15 Meat Inspectors and three Laboratory personnel who are responsible for collecting meat samples from carcasses at the export abattoir and from live cattle on farms. Samples are also collected from farms unannounced and at random. Also, animals are chosen randomly during sampling based on the criteria as stipulated in the Annual Plan.

3) Laboratories responsible for Analyses of Residues

There are two laboratories charged with the responsibility of residue testing. The Meat Hygiene Laboratory (MHL) based at the export abattoir, is equipped to carry out only basic Microbiology on personnel handling meat, environment/Equipment hygiene, byproducts, carcasses/meat cuts. The MHL is also equipped to carry out chemical tests on the abattoir water, Antibiotic Sensitivity tests, checking of effectiveness of cleaning/disinfecting and the efficiency of disinfectants.

Since 1998, the rest of the chemical analyses as per the E.U approved Annual Plan have been carried out by the South African Bureau of Standards (SABS), Pretoria, South Africa. One of the criteria used for awarding the government tender to the SABS Laboratory is the Laboratory is able to meet and comply with the minimum requirements as stipulated in Chapter 2(2) of Annex V of Directive 96/23/EC.

4) Status of the Laboratories

The arrangements for the monitoring of residues of Veterinary Medicines in beef is administered by the official Veterinarian, with samples being analyzed at the South African Bureau of Standards laboratory (Pretoria) and the Meat Hygiene Laboratory (Matsapa, Swaziland). Both Laboratories have received previous E.U approvals and audit inspections. The latter as an on site laboratory based at the export abattoir is approved only for carrying out basic microbiology tests on personnel prints, equipments, meat cuts and water.

Laboratory testing of fresh meat (Beef) from Swaziland to the E.U for the illegal use of growth promoters and veterinary contaminants is subcontracted to the South African Bureau of Standards (SABS). The SABS laboratory has the responsibility to develop,

validate and perform analyses in support pf customer policies aimed at ensuring the safety and wholesomeness of food. The analytical procedures involve the use of screening methods followed by confirmatory methods. The groups of veterinary residues of which the country is obliged to test for are set out in Annex I and II Council Directive 96/23/EC.

5) Legislation Governing Veterinary Medicines/Maximum Residue Limits

In order to transpose the E.U Directives into national law and to protect human health through the supply of meat and meat products from sound, health and residue free food of animal origin, the Ministry of Agriculture promulgated regulations in 1990 on the Prohibition of Use of Anabolic hormones and Thyrostatic substances, under the Animal Disease Act, 1965.

These gazetted regulations cover the importation, storage, transportation and distribution of prohibited substances in livestock. They also cover the proper permitted use of prohibited substances in the termination of unwanted pregnancies/gestation, synchronization of estrus, sampling and testing of stock and for use solely for therapeutic purposes. More especially in the case of food producing animals. Recognizing that the use of these prohibited veterinary medicines involves potential risks to public health, thus the introduced controls on the administration of such medicines to increase the emphasis on consumer safety by preventing the entry into the food chain by these potentially harmful residues.

During the past years of testing according to the E. U approved Annual Plan, there has not been any case of strong evidence pointing towards any level of Veterinary drug abuse in the local meat industry. Despite the existence of the afore said monitoring program over succeeding years, true positive results have not been found. This gives us strong supporting evidence that abuse of veterinary medicines does not feature in the country. One of the most deterrent factors could be that the use of growth promoters is not cost affordable to local farmers. The national Legislation aided by the Annual Residue Testing Plan has so far dealt effectively with the issue of Maximum residue Limits for veterinary medicines administered to food producing animals exported to the E.U.

6) Official Sampling Procedure

The number of samples Swaziland is obliged to test is set out in Annex IV of Council Directive 96/23/EC. These samples are a fixed proportion of the animals that we forecast will be slaughtered in the coming year. The export abattoir being the largest of all the local abattoirs, therefore taking a larger share of the cattle produced and slaughtered within the country, makes us to be satisfied within certain confidence limits that the sampling protocol is representative of the situation nationally. The principle of random survey and unannounced sampling is practiced in order to determine the presence of veterinary residues in all bovine meat samples collected from either at the export abattoir (SG1) or from farms within Swaziland.

All cattle presented at the export abattoir are subjected to ante-mortem examination and post – mortem examination, the latter carried out by a team of trained Meat Inspectors assisting the official Veterinarians.

Samples taken from carcasses are packaged, kept frozen and transported to the SABS laboratory under secure conditions for residue analyses. The export carcasses or meat cuts from sampled animals are not detained pending the laboratory results. However, there is workable standing agreement with the company Swaziland Meat Industries (SMI), to recall any consignment of meat cuts whose results of analyses are positive from the shipment points. Thus withholding it from the E.U market.

The official Veterinarian and Meat Inspectors take samples for different substances according to the following frequencies;

For Antimicrobials Sensitivity tests every kill at 3% of the total slaughter
For Stilbenes, Anabolic hormones, Growth substances, Gestagenic substances, Ivermectins, pesticides, Heavy Metals, Nitrofurans, Chloramphenicol and Sulphonamides.
For the methods of collection, types of analyses and the samples required see Annex I and II.

7) Measures taken when a violation is observed

In the case of suspected positive samples containing residues of veterinary medicines at concentrations above the Maximum Residue Limits (MRL) a combined follow up action is taken by the official Veterinarian based at the export abattoir. The process usually starts verbally re-confirming the received Laboratory results with the competent laboratory that has been awarded the Government tender to provide the analytical services.

Subsequently, the owner of the cattle is contacted making him/her aware of the results. An on farm investigation is undertaken including the re-sampling of animals from the same farm of origin as the suspect positive samples. The investigation usually entails the inspection of available farm records, farm environment and stock for traces of evidence that might suggest an existing purposeful violation of the Legislation.

In such past observations investigations of suspect cases of positive samples have proved to be false positives. No farm has come up with a second case of suspect positive samples following the first laboratory results. If the suspect positive samples were to be confirmed as true positives with sufficient evidence found to that effect, the owner of the cattle would be prosecuted in terms of Section 3 of the Animal Disease Act, 1965.

METHODS OF MEAT SAMPLE COLLECTION

TISSUE	**SPECIES**	**METHOD**
Kidney	Cattle	Whole Kidney then a

		portion of kidney, aproximately 50mm cube taken
Liver	Cattle	Approx 30-50g
Thyroid	Cattle	The thyroid gland found close to the larynx, dissected free from attached tissues and taken to laboratory.
Kidney fat	Cattle	Approx. 30-50g
Serum	Cattle	Collected in a 10ml blood sample in a red stoppered tube
Urine	Cattle	Approx 50ml of urine collected filtered and frozen immediately in a plastic container.

TYPES OF ANALYSES AND SAMPLES REQUIRED

Analyses	**Species**	**Sample type**
CARCASES		
Antimicrobials	Cattle	Kidney/Muscle
Chloramphenicol Nitromidazole	Cattle Cattle	Muscle Muscle
Sulphonamides	Cattle	Muscle
Nitrofurans	Cattle	Muscle
Cadmium, Lead	Cattle	Liver/Kidney
Anti-endoparasitics (Ivermectin,Doramectin, Moxidectin, Thiabendazole, Fenbendazole, Albendazole)	Cattle	Liver
Clenbuterol	Cattle	Liver/Urine
Stilbenes,Zeranol	Cattle	Urine
Gestagenic substances(medroxyacitole, dinaprost)	Cattle	Kidney Fat
Thyrostats	Cattle	Thyroid
Pesticides excluding OCs & Ops	Cattle	Kidney fat
Oestradiol, Testosterone,	Cattle	Serum
Nortestosterone/Clenbuterol, Sabutamol,Zilpaterol Hydrochloride, dimetridazole, phenylbutazone, monensin, flumethrin, cypermethrin	Cattle	Urine/Liver

aflatoxins		
LIVE CATTLE		
Stilbenes,Zeranol, Trenbolone	Cattle	Urine
Nor testosterone	Cattle	Urine
Oestradiol, Testosterone	Cattle	Serum
Clenbuterol,Sabutamol, Zilpaterol Hydrochloride	Cattle	Urine

9. MONITORING OF MATURATION

- At the end of slaughter, when all the day's carcasses have been loaded into a chiller, the temperature of the last carcass to be loaded into the chiller is taken and recorded.
- The chiller is closed and sealed. The time of sealing is noted.
- Chiller is left overnight.
- At 7.00 am the following day, an inspector has to go to the chiller where the maturation is taking place. Before entering the chiller, the inspector has to observe and record the chiller temperature either by reading the thermolog or thermocharts or at worst, using the hand held thermometer. The chiller temperature is recorded.
- The inspector checks if the seals are still intact, breaks the seals and records the seal numbers.
- The inspector takes the temperature of three carcasses at different sites of the room and records them, as well as the identity of the carcasses. The carcass temperature is recorded in the Maturation Record Sheet.
- The chiller is resealed.
- The process is repeated at 11.00 Am and 3.00 pm.
- At 7.00 AM the next day, the process is repeated for the last time.
- The carcass temperature should be below seven degrees centigrade at the end of maturation. If this is the case, then maturation is said to be complete.
- If carcass temp is above seven degrees at the end of maturation, continue process of maturation for a few more hours (4-8).
- On a daily basis, thermolog readings should be down loaded from the computer and analysed by a veterinary officer.
- Thermographs chart should be monitored regulary and the charts should be given to veterinary officer to be analysed weekly.

CORRECTIVE ACTION

1. If chiller temperature drops below 2 degrees centrigrade within the maturation period, all carcases should be downgraded to local/ non EU Eligible

2. If government seals to a chiller are found to have been broken or tampered with during maturation period, down grade all meat to local/ non EU eligible.

10. LOADING AND TRANSPORTATION OF CATTLE TO SLAUGHTERHOUSE

Preamble

The transportation of animals into an abattoir is a critical operation in the chain of events leading to the slaughter of the animal as it has a direct bearing on the quality of the meat. Certain conditions have to be met before and during the transportation of the animals. The conditions and procedures are listed below.

1) Permitting the animals out of the diptank area.

Before animals are transported to a slaughterhouse, they must have been permitted out of the diptank area to the slaughterhouse by a competent and authorized officer (normally the VA of the area). The officer has to carry out an inspection of the animals and satisfy him/herself that the animals are healthy before endorsing the permit.

2) **Conditions of the truck**

i) The truck must have non-slippery floor for easy grip.
ii) A grid should be on the floor of the truck
iii) There should be no holes on the floor of the truck.
iv) The walls of the truck should be high enough to avoid animals from jumping over.
v) The interior must be free from metal projections that may injure the animals, causing skin damage and bruises.
vi) The truck should be generally in a good state of repairs and be roadworthy to minimize chances of breakdown while still loaded with cattle.

3) **Cleaning and disinfection of the truck**

Before the animals are loaded, the truck must be washed and disinfected with a suitable and approved disinfectant. It is the responsibility of the farmer to ensure that he/she gets approval of the disinfectant he/she intends to use.

4) Loading animals into truck

A loading ramp must be provided for easy and safe loading of animals. The animals must be loaded gently and quietly using a prodder. Sticks and knobkerries should not be used. Horned and dehorned animals must not be loaded together.
Big and small animals must not be mixed in one truck. Overloading should be avoided. Truck partitioning should be done to avoid underloading.

5) Driving the truck

The driver should ensure that he drives carefully all the time to ensure that animals are not injured. All forms of reckless driving, including overspending, sharp fast turns and sudden applying of brakes should be avoided. Unnecessary use of the horn should be avoided.

6) **Duration of transportation.**
Animals transported by motor vehicle should not exceed 3-4 hours. Animals on hoof should not be moved over 24-30 kms. Moving animals on hoof is not encouraged unless distance is less than 5 km.
It is advisable that animals be transported in the early hours of the day or late in the afternoon, especially in summer. Transporting animals in the midday heat is not advisable and should be avoided if possible.

7) Off-loading of animals
An off-loading ramp should be provided at the off-loading point in the slaughterhouse. Animals should not be rushed when being offloaded. Minimum force and noise should be applied when off-loading. Animals should be gently driven to their respective pens.

8) Receiving animals.
At the slaughter house, animals should always be received by veterinary officials. Veterinary officials should ensure that the transporter has adhered to the conditions laid in this document. The officials should ensure that animal welfare issues have been complied with and should subsequently fill the animal welfare sheet.

9) In case of non compliance.
The veterinary officials should judge the severity of non compliance and charge the farmer/transporter accordingly. Depending on the severity of non compliance, the official can warn or charge the farmer/ transporter, reject the consignment of cattle, recommend improvements on the truck or ban the truck from bringing cattle to the slaughter house.

11. LOADING FOR EXPORT

Preload Truck Inspection

- The inspector should have a truck inspection form
- The inspector should ensure that the truck is thoroughly washed and is clean.
- The truck and trailer should be in a good state of repair
- The inspector should ensure that the cooling system is functional. Please note temperature and record it. Temperature of truck should be 0 degrees at loading.
- Inspector should note registration number of truck and trailer and record it on truck inspection form.
- Inspector should inspect inside of trailer. (s) He must make sure that the inside is clean and the floor is not wet.
- Pallets (or any other approved suitable material) must be placed on the floor of the truck

Loading Truck

- A few boxes (+/- 5) from the consignment to be loaded are picked at random. Their temperature is taken and recorded. Boxes are then repacked.
- If temperature of meat from sampled boxes is within the expected range for chilled (-2<+2)/frozen (> - 12)/ fresh meat, depending on what is being expected.
- Examine boxes to be loaded. Ensure that boxes are clean, well packaged, well sealed. Check that labeling is correct, especially the presence of the traceability code. Ensure that each box meets the highest standard and quality for export.
- Correct any anomaly that is noted during box inspection i.e. repackage if packaging is of poor quality, re-label if labeling is improper or has mistakes, etc.
- Commence loading of boxes into trailer.
- During loading, every 10th box is sampled, the temperature of the meat is taken and the box is repacked.
- This is repeated until loading is finished.
- If any box has a higher temperature (-2 - +2), it is rejected and downgraded to local/ non EU eligible

Sealing of Truck

- At the end of loading, close truck, lock doors (for trucks which have facilities for locking).
- Seal truck with government seals and record seal numbers.
- Ensure that temperature of trailer is set at the expected temperature.
- Inform supervisor / veterinary officer about successful loading or any discrepancies observed during loading.

12. TRACEABILITY CHECK FOR EXPORTED MEAT

- Before loading boxes of meat into truck, a few boxes from the stock to be exported are selected and their traceability codes on the label box are taken.
- The traceability code on the label is traced to the corresponding number on the Carcasses Received for Deboning Report (Deboning Report).
- The Deboning Report contains the serial numbers of the carcasses that were deboned, plus the slaughter date, the ear tag number of the carcass, the slaughter batch number and the name of the producer and the permit number of the particular batch of animals.
- To complete the traceability process, reference is made to the permit mentioned above, which has the Dip tank number, the name of the applicant or owner, the kraal number and signature of the issuing officers.

CORRECTIVE ACTION

If any box cannot be traced back to a batch of animals, immediately downgrade it to local / non EU Eligible. Increase vigilance after that and check traceability of all boxes

earmarked for export. Down grade all boxes which cannot be traced back to a batch of animals slaughtered at SMI.

13. MEAT HYGIENE LABORATORY.

WATER

Chlorine content and temperature levels are measured every morning. The level (1.0ppm – 2.0ppm with opt 1.5ppm). This level is a guarantee of portability of the water. Other tests performed weekly involve tests for feacal *Streptococcus, Staphylococcus,* coliforms, C*lostridium pefringens* and if the chlorine is not enough in the water all operations are stopped until this parameter is met.

EQUIPMENT

Equipments used or which gets in contact with meat are washed and disinfected at the end of the day. The effectiveness of this operation is ascertained by swabbing the surfaces of the equipment and plating onto appropriate culture media. The grown colonies are counted and the greater the number of colonies the poor the bactericidal effect of the disinfectant or the washing schedule and procedure.

PERSONNEL

Food handlers are encouraged to keep themselves clean especially their hands as they come into contact with meat. Fingerprints are pressed onto Mac Conkey and Edwards plate. The number of colonies grown on the plates is directly proportional to the number of bacteria found on the handlers hands. The Edwards medium is selective for feacal Streptococci which grow as black colonies.

ANTIBIOTIC RESIDUES

The laboratory tests the muscle and kidney for the presence of antibiotic residues. The meat pieces are tested against known Streptomycin, Trimethoprim and Penicillin discs. The size of the hallow or zone of inhibition of incubation is indicative of the antibiotic residue left in the tissue.

CARCASSES/BEEF CUTS

The amount of bacteria found on the surface of carcasses and beef cuts are counted to ascertain the quality of the meat. The results obtained are used to establish the shelf life of the meat and also to know if the meat is processed and handled hygienically. Salmonella testing is performed in all batches of meat slaughtered for export. The lymph nodes or the pieces of prime cuts are pooled in groups of five and processed as one sample. If any of those samples come positive results the whole batch of animals killed on that day are not exported to the European Union Market. *For E.Coli* and

Stapylococcus aureus testing, samples (prime cuts) are colleted just before the meat is vacuum packed. For positive cases, the entire batch consignment is downgraded to export illegible. Sampling and Testing is carried out in line with Commission Regulation (EC) no 2073/2005 which repeals 93/51/EEC.

TEMPERATURE CONTROL

The laboratory has a number of equipment which is temperature based. The variation in the temperature of the equipment affects either the materials stored in case of the refrigerators or the rate / manner of the growth on media in case of the incubator. These temperatures of the incubators and the refrigerators are monitored and the results recorded in the "Laboratory Temperature Record Book". This is done at least every four hours.

COLLECTION OF SAMPLES FOR RESIDUE TESTING AT SABS (RSA)

The laboratory is responsible for preparation and transmittal of specimens for residue testing. Due to lack of expertise and appropriate equipment, these tests have been sub-contracted to SABS (Pretoria) in the Republic of South Africa: Serum, Muscle, Livers, kidneys etc are collected during slaughter days and from the farms, packed and flown to the SABS Laboratory.

7. ANIMAL IDENTIFICATION USING THE CATTLE PURCHASE NOTE (CPN) NUMBER

See section under Livestock Identification