


**DAFF PRESENTATION ON CYSTICERCOSIS:  
Veterinary Public Health and Animal Health Policy**

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**PURPOSE**


To provide background on the regulatory measures on management of cysticercosis to safeguard foods of animal origin:

- ✓ Animal Disease Act;
- ✓ Meat Safety Act;
- ✓ Agricultural Product Standard Act;
- ✓ Animal Identification;




**INTRODUCTION**

- Access to veterinary services is considered to be one of the key challenges facing the communities of the developing world.
- Zoonotics form a sizeable proportion of the new, emerging and re-emerging diseases.
- Infections with *Taenia sp* is considered to be a significant problem and poses serious public health risks especially in developing countries.
- Taeniosis/cysticercosis is associated with poor sanitation, poor animal husbandry, lack of proper meat inspection and general lack of disease control measures in certain areas.
- Strong policies that integrate livestock disease control offer opportunities for bettering the health of humans through better and safe livestock production




**GOOD PRACTICES IN PRIMARY PRODUCTION**

- Veterinary policies focus on the implementation of appropriate measures on farm and at the abattoirs – these are considered to be key elements in ensuring safe foods of animal origin.
- Primary production should be managed in way that enhances the safe and sound meat for human consumption.
- Systems should be in place in order to detect hazards present in animal populations which may affect safety and suitability of meat.
- Primary production should include officially-recognised programmes for control and monitoring of zoonotic diseases.
- Notifiable zoonotic diseases should be reported as required in order to prevent outbreaks from taking place.




**GOOD PRACTICES IN PRIMARY PRODUCTION**

- Good hygienic practice (GHP) should involve, health and hygiene of animals, records of treatments, feeding stuffs and relevant environmental factors (with HACCP principles).
- Animal identification practices with full traceability systems.
- Animals should not be fed with feeding stuffs that are likely to introduce zoonotic agents (e.g. TB, Brucellosis, Cysticercosis agents, etc) to the slaughter population.
- Animals should not be fed with feeding stuffs that contain chemical substance (e.g. Veterinary drugs, pesticides or contaminants that could result in residues in meat at levels that make the product unsafe for human consumption.



**MEAT SAFETY ACT PRESCRIBES GOOD PRACTICES AT THE SLAUGHTER HOUSE**

- Risk Assessment
  - ✓ Identification of hazards
  - ✓ Qualitative/quantitative of the adverse effect
  - ✓ Qualitative/quantitative degree of consumption
- Risk Management
  - ✓ Weighing policy alternative
  - ✓ Selecting and implementation of appropriate control option including regulatory measures.
  - ✓ Establish the significance of estimated risk.
  - ✓ Compare the costs of reducing the risk with the benefits gained.
  - ✓ Compare the political and institutional process of reducing the risk.
  - ✓ Develop standards, guidelines and other recommendations of food safety.



**GOOD PRACTICES AT THE SLAUGHTER HOUSE**

- ❑ **Risk communication**
- ✓ Exchange of information and opinion among risk assessors, risk managers and other interested parties.
- ✓ Risk communication provides the private and public sector with the information necessary for preventing, reducing or minimizing food risks to acceptable levels through systems of food quality and management by either mandatory or voluntary means.



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**LEGISLATIONS INVOLVED IN FOOD SAFETY WITHIN THE DEPARTMENT**

- ❑ **Animal Disease Act, 1984 (Act 35 of 1984) - DAFF**
  - Regulates on-farm disease control and health of the animals
- ❑ **Meat Safety Act, 2000 (Act 40 of 2000) - DAFF**
  - Regulates the slaughter of animals at abattoirs to ensure that only healthy animals are slaughtered and are handled in hygienic manner
- ❑ **Animal Identification Act, 2002 (Act 06 of 2002) – DAFF**
  - Regulates the registration of Animal Identification marks that will act as a first line defence against stock theft, enhance identification of property and support traceability.
- ❑ **Agricultural Product Standards Act, 1990 (Act 119 of 1990) -DAFF**
  - Regulates marketing of certain agricultural products



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**MEAT SAFETY ACT REQUIREMENTS - INTRODUCTION**

- ❑ The abattoir owner must "procure meat inspection service" (section 11(1)(b), and that meat inspection function must be performed independently of the abattoir (section 11(1)(c), and meat inspection may only be performed by:
  - National Executive Officer (NEO) – National Department (DAFF)
  - Provincial Executive Officer (PEO) – Provincial Departments (PDAs)
  - Assignee – established in terms of section 4 of the Act
  - Authorized person – as contemplated in the Act
- ❑ A person performing meat inspection service shall be registered in terms of the Act, and such registered inspector may be:
  - Meat Inspector (Environmental Health Practitioners)
  - Meat Examiner
  - Veterinarian
  - Persons with relevant bioscientific qualification (e.g. Animal Health Technicians)



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**MEAT SAFETY ACT - ANTE-MORTEM INSPECTION**

- ❑ All animals presented for slaughter at the abattoir shall be inspected while alive to ensure that no unhealthy animals are admitted into the food chain
- ❑ Ante-mortem inspection include
  - Evaluation of health declarations records (e.g. treatments used, withdrawal times)
  - Visual inspection of the animals in lairages
- ❑ Decisions made in ante-mortem include
  - Animals are approved for slaughter
  - Animals are approved for emergency slaughter
  - Animals are approved for delayed / separate slaughter
  - Animals are condemned (& post- mortem is conducted)



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**MEAT SAFETY ACT - PRIMARY INSPECTION**

- ❑ Each carcass part thereof shall be examined by a registered inspector who shall be present at slaughter
  - Each carcass that has been examined and approved by the registered inspector is marked with an approval stamp
  - Each stamp is unique for that abattoir, and has the abattoir registration number
  - For poultry, the marks must be printed on the wrapping and packing or on labels of each individual carcass or cut portions
- ❑ If the inspector is not satisfied about the carcass, such carcass is detained for secondary inspection



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**MEAT SAFETY ACT - PRIMARY INSPECTION**

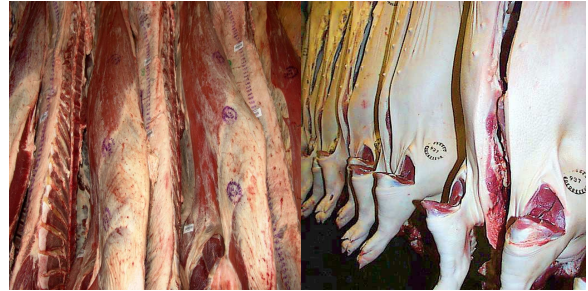


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### MEAT SAFETY ACT - SECONDARY INSPECTION

- ❑ Performed by a veterinarian ONLY
  - For all detained carcasses , to make/ or confirm the diagnosis
- ❑ Decisions made at the end on meat inspection include:
  - Approve carcass or conditionally approve carcass
  - Total condemnation or partial condemnation
- ❑ All meats leaving abattoirs have stamps of approval - meat is safe
- ❑ Once the meat leaves the abattoirs, it enters the custody of other statuses/ Departments
- ❑ Butcheries, meat processing plants, retailers are not regulated by the Meat Safety Act

### APPROVAL STAMP



### HANDLING OF CARCASSES WITH CYSTICERCOSIS

- ❑ A carcass, head and red offal found to be infested with one or more parasitic intermediate stages, which may be alive or calcified, must be detained (reg.105).
- ❑ When one or more parasitic intermediate stages are found on the majority of incision surfaces the carcass must be condemned.
- ❑ Where the infestation is not excessive the carcass and organs may be passed on condition that it undergoes treatment.
- ❑ A conditionally passed carcass must be identified by roller marking in red ink along its entire side with the letter "M", being a minimum of 2cm in height.
- ❑ All parts belonging to the carcass to be treated, must be identified by "M" tags.

### TREATMENT OF CARCASS WITH CYSTICERCOSIS

- ❑ Carcasses and organs must be treated by freezing, as sides in a freezer with air temperature at minus 18°C for 72 hours or 10°C for 10 days.
- ❑ Carcasses and organs must reach a deep bone or core temperature of less than minus 6°C, confirmed by the registered inspector and in accordance with the protocol approved for the specific abattoir by the provincial executive officer.
- ❑ If the meat deep boned, the container or carton must be marked with letter "M" and the date of introduction into the freezer must be indicated.
- ❑ The core temperature of the meat inside the container or carton must be below minus 6°C before it can be released by the registered inspector.

### TREATMENT OF CARCASS WITH CYSTICERCOSIS

- ❑ When using a chest type freezer, carcasses must be portioned according to a protocol approved by the provincial executive officer.
- ❑ Visible parasitic intermediate stages must be removed from the meat of a carcass that is conditionally passed and treated.
- ❑ Records of core and freezer temperatures, batches of containers, carcasses and organs must be kept for at least six months.

### INTERNATIONAL TRENDS ON CYSTICERCOSIS

- ❑ OIE – Meat inspection is considered as the main diagnostic procedure. Meat inspection procedure vary with the parasite and the host involved, whether zoonosis or not, the tissue involved and regulations within a country. At meat inspection many of the cysts detected, often as many as 85-100%, are dead. Examinations tend to be more extensive with the zoonotic infections of *T. Saginata* and *T. Solium*.
- ❑ WHO – anthrax, bovine tuberculosis, brucellosis, cysticercosis, echinococcosis and rabies are regarded as Neglected Zoonotic Diseases due to the fact that they are not adequately addressed nationally and internationally.

### CHALLENGES REGARDING MEAT INSPECTION IN SOUTH AFRICA

- ❑ While control measures are focussed at the abattoir level and actions by Meat Inspectors – coordination and communication is generally poor.
- ❑ Meat Inspection is conducted by a private sector service providers
- ❑ Although passive surveillance at abattoirs is considered to be an important element in disease control – communication about daily findings by Meat Inspectors is not often centralised – such information is only available at an abattoir level
- ❑ There is a need to provide capacity for coordination and consolidation of monthly disease reports and data on condemnations both at a central and provincial level.

### CONCLUSION

- ❑ The research study conducted in some part of Eastern Cape Province (in emerging farming areas) funded by United States Agency for International Development, where the highest levels of Neurocysticercosis have been reported, indicated that 28-50% of African children with epilepsy were positive of cysticercosis. (*Veterinary Parasitology 154, 2008*)
- ❑ The Department of Agriculture, Forestry and Fisheries, under the Directorate Veterinary Public health is busy preparing a project that will establish the current situation between pig husbandry practices and slaughter processes at the abattoirs.

Thank you