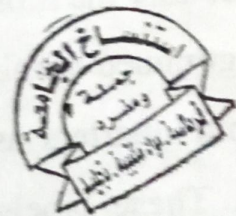


Ante-mortem inspection:

Official Veterinarian attempts to make a clinical diagnosis without a history, a situation that could not be tolerated in day-to-day veterinary medical practice. Most of the cattle and sheep production in Europe is still relatively small-scale, and many of the animals slaughtered come to the abattoir via dealers or short-term finishers who can provide only a very limited history. The best hope of progress would seem to lie with 'Producer Groups' or 'Quality Assurance Schemes' where a group of farmers undertake to conform to a set of production standards, but development has been slow owing to the lack of any substantial premium which these animals can attract. This form of producer assurance combined with periodic veterinary inspections to verify the information provided may be the most practical approach.



post-mortem inspection:

Facilities for post-mortem inspection:

It is essential that there should be coordination and communication between inspection points and that the inspectors on the inspection line can confidently identify correlated carcasses and viscera. For most domestic farm animals, there are normally three main inspection points: head, viscera and carcass.

Health and safety:

The greatest care must be taken in the handling, slaughter and carcass dressing of animals which may represent a source of zoonotic infection to plant staff. In particular, such animals should be handled separately from normal stock; staff should wash hands and arms frequently; avoid cuts, and contamination of the eyes with body fluids; avoid handling udders and urogenital tracts (hooks to be used instead); avoid incision into these organs and the associated lymph nodes; adopt a high standard of personal cleanliness at all times and seek medical advice if exposure to brucella infection or any other zoonosis has occurred.

Carcass identification:

Probably the most common method of identification in use for cattle is gummed numbered paper labels, which are stuck on to each of the four quarters as the hide and live animal identification are removed. These labels have not always been stored hygienically, cannot be applied to cold carcasses satisfactorily and have to be cut off before the carcass enters the cut-up. Another alternative is a plastic tag or fastener, applied with instrument which can attach the label to the meat. These tags are not detected by metal detectors, and care must be taken to ensure that they are completely removed so that they do not adulterate the meat.

Any good system of carcass meat identification must be clearly legible, easily applied, cheap, non-toxic, non-corrosive and suitable for use with modern data retrieval systems. The UK Meat

and Livestock Commission issued a guide on the labeling of carcass meat and prime cuts. It concludes:

1. Do not label, write or stamp unless essential.
2. Fix labels in a consistent position to aid checking and removal.
3. Remove all labels and clips as soon as they are no longer needed.
4. On bone - in cuts apply the label close to the bone and to only one cut in each customer's batch.
5. Label lamb carcasses on the front of the shank.
6. Label beef carcasses on the rib cage or chine bone or vertebral column, and veal carcasses on the leg.



Current EC post-mortem procedure:

This involves the macroscopic visual examination of the slaughtered animal and its organs, the palpation of organs, the incision of certain organs and lymph nodes, the investigation of anomalies in consistency, color, smell and where appropriate, taste and where necessary, laboratory examination, particularly for residues. The presence of inspectors who are independent from plant management is also important in the maintenance of high standards of dressing and operational hygiene. The wide range of food poisoning organisms which are found in the feces of apparently healthy animals makes it imperative that, at the very least, visible fecal contamination is eliminated during the dressing process. In practice, high standards are generally maintained by the independent inspectors, who are prepared to slow or stop production during periods when there is increased risk of contamination.

Post-mortem inspection of cattle:

Inspection of a carcass and its organs, in accordance with regulations currently in place in most countries, should proceed in the following order, though in countries where bovine tuberculosis has been eradicated suitable modifications in the routine technique. As has been noted under *T. saginata*, variations occur in the examination for *Cysticercus bovis* in different countries.

Head: An examination of the outer surfaces and eyes is followed by an inspection of the gums, lips and tongue for foot-and-mouth disease, necrotic and other forms of stomatitis, actinomycosis and actinobacillosis, the tongue being palpated from dorsum to tip for the latter disease. Incisions of the internal and external masseters for *C. bovis* should be made parallel with the lower jaw.

Lymph nodes: The detailed examination of lymph nodes, often recommended in different meat inspection codes, is mainly for the detection of tuberculosis and is fully justified where this disease is a problem.

Lungs: Visual examination, which should be followed by palpation, should be carried out for evidence of pleurisy, pneumonia, tuberculosis, fascioliasis, hydatid cysts, etc. The bronchial and mediastinal lymph nodes should be incised.

Heart: The pericardium should be examined for evidence of pericarditis, hemorrhages, etc. The ventricles are then incised and the outer and inner surfaces are observed, particular attention being paid to the presence of petechial hemorrhages on the pericardium or endocardium and to cysticerci, hydatid cysts.

Oesophagus, stomach and intestines: Observe and, if necessary, palpate these organs. The serous surface may show evidence of tuberculosis or actinobacillosis, while the anterior aspect of the reticulum may show evidence of a foreign body.

Kidney: Enucleation of the kidney to allow visual inspection and, if necessary, the kidney and renal lymph nodes.



Liver: A visual examination with palpation should be made for fatty change, actinobacillosis, abscesses and parasitic infections such as hydatid cysts, *C. bovis*, fascioliasis. The larval stage of *Oesophagostomum radiatum* may occasionally be found in the ox liver. Observe and, if necessary, palpate the gall bladder.

Spleen: The surface and substance should be examined for tuberculosis, haematomata and the presence of infarcts with observation, palpation and, if necessary, incision.

Uterus: The uterus should be viewed, palpated and, if necessary, incised, care being taken to prevent contamination of the carcass. Evidence of pregnancy or of recent parturition in the well bled and well-set carcass is not significant. In brucellosis reactors the uterus must not be incised or handled.

Udders: The potential for the presence of food poisoning microorganisms in the udder is such, that it is questionable if they should ever be considered as fit for human consumption. If they are, they should be palpated, and each half of the udder opened by a long, deep incision, preferably multiple and about 5 cm apart, and the lymph nodes incised. Abscesses or septic mastitis may be present, and the supra mammary lymph nodes, even in a dry cow, should be incised for evidence of abscesses or tuberculosis. In brucellosis reactors the udder is removed intact without incision and without handling.

Testis: If destined for human consumption, the testes should be viewed and palpated.

Carcass: The cut surfaces of bone and muscle, carcass exterior, pleura, peritoneum and diaphragm should be observed, attention being given to condition, efficiency of bleeding, color, cleanliness, odors and evidence of bruising and other abnormalities. If necessary, palpation and incision of parts may be indicated, e.g. triceps brachii

muscle for *C. bovis*. The superficial inguinal, external and internal iliac, prepectoral and renal lymph nodes should be observed and if necessary, palpated and incised. If the above routine examination reveals no evidence of abnormality the carcass may be passed for food.



Calves: The routine post-mortem of calves is virtually the same as for adult bovines, with special attention to particular sites. A visual examination of the mouth and tongue should be made for foot-and-mouth disease and calf diphtheria. Attention should also be paid to the abomasum for evidence of peptic ulcers, the small intestine for white scour or dysentery and the liver, portal lymph nodes and posterior mediastinal lymph nodes for congenital tuberculosis. The lungs, kidneys and spinal cord should be examined for melanotic deposits and the umbilicus and joints for septic omphalophlebitis.

Sheep and goats: Sheep and goats require a less detailed inspection than cattle, calves and pigs, the routine inspection requiring no incisions. The carcass should be visually examined for satisfactory bleeding and setting, the lungs for parasitic infections, especially hydatid cysts and nematodes, and the liver for fascioliasis. In Australia and New Zealand it is routine procedure to palpate the carcass for evidence of arthritis, caseous lymphadenitis, inoculation abscesses and lesions due to grass seed awns.