APPENDIX - I

Prescribed Pro forma for Post-mortem Examination

Post-mortem Examination on the body of a .................................................. belonging to Shri. ..................................................

.................................................. of Village ........................................ Taluka ........................................ District ........................................

Month :

Serial No. / Monthly No. :

(A) Precise of the case

1. Date of Admission.
2. Date and time of death.
3. Date and time of conducting Post-mortem.
4. History.
   (a) Clinical :—
      (i) Temperature,
      (ii) Pulse,
      (iii) Respiration,
      (iv) Condition of body cot.
      (v) Duration of illness,
      (vi) Symptoms seen (Systemwise details)
      (vii) Smell of breath/or the bitter, almoed like / Garlic/Insecticidal smell,
      (viii) History of Spraying pesticide, Insecticide, Rhodenticide and medicine,
      (ix) History of use of fertilizer in vicinity.
      (x) Whether symptoms developed immediately after consumption of feed and water,
      (xi) Treatment given with details :
   (b) Animal Husbandry Practices :—
      (i) Type of feeding with source. Any physical abnormality like Black column, mouldy etc.
      (ii) Grazing condition and presence of poisonous plants if any.
      (iii) Watering with source of water.
      (iv) Housing.
   (c) Epidemiological Data :— (Especially in out-breaks).
      (i) Total No. of affected cases.
      (ii) No. of deaths,
      (iii) No. still affected,
      (iv) No. of cases examined.
      (v) Total population of the village (Specieswise)
      (vi) Mortality percentage,
      (vii) Morbidity percentage,
      (viii) Whether animals having common source of feed and water.
   (d) Vaccination Status (R.P., H.S., B.Q., Anthrax).
   (e) Date of testing against TB/JD/Brucella and the Status.
   (f) Climatic conditions
Clinical Diagnosis:

(B) External Examination

1. Class of animal, Sex, Age, Breed.
2. Descriptive marks.
3. Condition of the body.
4. Rigor mortis.
5. Natural orifices.
7. Superficial lymph nodes.
8. Details of wounds if any.
9. Any other abnormalities.

(C) Internal Examination

I. Subcutaneous tissue.

II. Abdominal cavity.—
   (1) Peritoneal cavity and Peritonia.
   (2) Position of organs (Organs to be merely inspected and none removed at this stage.)
   (3) Any other abnormality.

III. Thoracic Cavity.—
   (1) Pleural cavity and Pleura.
   (2) Position of organs.
   (3) Any other abnormality.

IV. Pericardial Sac.

V. Heart.—
   (1) Gross appearance, colour, size etc.
   (2) Chambers.
   (3) Valves.
   (4) Myocardium.
   (5) Blood vessels.

VI. Larynx.—
   (1) Abnormalities.
   (2) Parasites.

VII. Trachea.—
   (1) Abnormalities.
   (2) Parasites.
   (3) Bronchial lymph nodes.

VIII. Lungs.—
   (1) Gross appearance, colour, size etc.
   (2) Palpable abnormalities.
   (3) Section.
   (4) Parasites.
   (5) Lymph nodes.

IX. Diaphragm.
X. Liver.—
(1) Gross appearance, colour, size etc.
(2) Surface
(3) Borders
(4) Parenchyma
(5) Lymph nodes
(6) Gall bladder (a) wall (b) Contents.
(7) Parasites.

XI. Spleen.—
(1) Gross appearance, colour, size etc.
(2) Surface.
(3) Section.

XII. Mouth (Lips, Teeth, gums, palate etc.).—

XIII. Tongue.—

XIV. Pharynx.—
(1) Associated lymph nodes and tonsils.

XV. Oesophagus. Parasites.—

XVI. Stomach.—
(1) Outer surface.
(2) Interior and contents.
(3) Parasites.

In case of ruminants information in respect of rumen reticulum omasum and abomasum should be given separately under the above headings.

XVII. Intestines.—
(1) Mesentery.
(2) Wall (Serous and mucous surfaces)
   (1) Small
   (2) Large-Caecum, colon and rectum.
(3) Ileo-caecal valve.
(4) Contents.
(5) Parasites
(6) Lymphnodes (Mesenteric)

XVIII. Kidney.—
(1) Gross appearance, colour, size etc.
(2) Capsule
(3) Renal surface
(4) Section
(5) Renal pelvis
(6) Calculi.
XIX. Ureters.

XX. Urinary Bladder.—
   (1) Mucous membrane
   (2) Contents.

XXI. (1) Generative organs, in female in pregnancy age of foetus and the horn containing the foetus be mentioned.
   (2) Lymph nodes.

XXII. Endocrine glands.

XXIII. Musculature.

XXIV. Skeleton.

XXV. Brain.—
   (1) Meninges
   (2) Cerebrum
   (3) Cerebellum
   (4) Spinal cord.

XXVI. Special remarks (If any).

XXVII. Materials collected for examination.—
   (a) Heart blood smears.
   (b) Brain smears.
   (c) Pus smears
   (d) Impression smears of organs, intestines, Lymph nodes etc.

XXVIII. Materials collected for bacteriological/Parasitological/Virological/Toxicological for histo-pathology Exam.
   (N. B.— If poisoning suspected indicate type of poisoning suspected i.e. Insecticide/Rhodenticide/Urea/Nitrate/HCN/Chemicals Poisonous plant/ polluted water or metal poisoning etc.)

XXIX. Suspected Cause of death.

Place:
Dated:
Signature and Designation

CERTIFICATE

Certified that the Post-mortem, of the above-said animal has been carried out on date _______________________________
and in my opinion the animal might have died due to _______________________________. The carcass handed over/burnt, buried/
along with the skin and all body parts to ____________________________________________

Place:
Date:
Signature and Designation
**APPENDIX-II**

Statement showing the details of diagnostic work done at Veterinary Polyclinic during the month of  

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Nature of specimen</th>
<th>No. Exam.</th>
<th>No. of found + ve</th>
<th>Details of Positive Samples (Specieswise)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blood samples</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Including Wet Smears)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Blood smears.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Faecal sample.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Scrapings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Urine Samples.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Milk Samples.</td>
<td></td>
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<tr>
<td>7</td>
<td>Impression/Exudate Smears.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8</td>
<td>Any Other Samples.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**TOTAL** ..

A. No. of outbreaks attended (Specieswise) .. Name of the Disease .. Materials collected and sent to D. I. S. ..

B. No. of *Post-mortem* conducted (Specieswise) At H. Q. .. Diagnostic .. Medicolegal .. Disease .. Diagnosed ..

On Tour ..

I) Materials collected for Laboratory examination on *post-mortem* ..

II) Material sent to D. I. S. (For Bacteriology, Virology Histo-Pathology, Toxicology, and Parasitology). ..

C. Average Daily Attendance ..

D. Any other special feature ..

Place : .. Signature : ..

Date : .. Designation : ..

**APPENDIX-III**

(FORM No. 1)

AICRP For Epidemiological Studies on Foot and Mouth Diseases.

Name of Centre .................................................. Code No. of Outbreak ..................................................

Specimen No. .......................................................... Nature of Sample ....................................................

Date of Sample Collection ........................................ Date of last Outbreak ...........................................

Virus type identified ............................................. Species Affected ..............................................

**Particulars of the Area :**—

Name of Village .......................................................... Taluka .......................................................... District ..........................................................

State ...............................................................
Livestock Healthy and Affected:

<table>
<thead>
<tr>
<th>Population</th>
<th>*Age</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cattle</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total at Risk (Village Population)

- Less than 1 year
- More than 1 year

Disease Affected

- Less than 1 year
- 1 year
- 1 year

* For Sheep, Goats and Pigs substitute with 0-6 months and 6 months and above.

Vaccination Status of the Population: Vaccinated: — None — Few — Majority

Severity of the Outbreak: Severe — Moderate — Mild

Duration: less than 15 days — more than 15 days

Possible source: Human — Introduction of Animals

(Details of Same): Cattle shows/Fair — Fodder — other

Date of last outbreak: — Day — Month — Year

Loss in Milk*: More than 50% — 25-50% — Less than 25%

Loss in working capacity**: High — Medium — Low

** Approximate total loss in term of money under the prevailing condition (In terms of 100 Rupees)

Note: — To be completed by the Field Officer.

Signature

Designation

APPENDIX - IV

PROFORMA FOR EPIDEMIOLOGICAL DATA ON DISEASE OUTBREAK

Disease Suspected:

1. Village — Taluka — District

2. Population of affected species:

<table>
<thead>
<tr>
<th>(i)</th>
<th>Cattle</th>
<th>Exotic</th>
<th>Cross bred</th>
<th>Indigenous</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii)</td>
<td>Buffaloes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii)</td>
<td>Sheep</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(iv)</td>
<td>Goat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v)</td>
<td>Pigs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vi)</td>
<td>Equines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vii)</td>
<td>Poultry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(viii)</td>
<td>Ducks</td>
<td></td>
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</tr>
</tbody>
</table>
3. **General Animal Husbandry Practices followed:**
   (a) Housing - Pucca / Katcha / Free Range / Deeplitter / Cages.
   (b) Feeding - Stall-feed / Grazing.
   (c) Concentrate - Ready-made / Home made / Not given.
   (d) Fodder Used - Dry / Green
   (e) Source of Water - well / Borewell / Tap / Pond / River / Nala

4. Environmental conditions at the time of disease: Heavy Rains / Cold wave / Hot wave / Storm / Drought.

5. Previous vaccination Status: Disease
   - Date
   - No. Vaccinated


7. History of insecticide spraying / Mass medication / consumption of / poisonous plants / Malicious poisoning (If toxicity is suspected)

8. Date of first appearance of the disease

9. Dates of visits by

10. Age group of affected animals / birds: Adult / Growing / Young.

11. Type of Animals / Birds affected: Milking / Dry / Layers / Broilers.


13. Course of the disease: Average Range

14. No. of Attacks (Specieswise):

<table>
<thead>
<tr>
<th></th>
<th>Exotic</th>
<th>Crossbred</th>
<th>Indigenous</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youngs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

15. No of deaths (Specieswise):

<table>
<thead>
<tr>
<th></th>
<th>Exotic</th>
<th>Crossbred</th>
<th>Indigenous</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td>F.</td>
<td>M.</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Adult</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youngs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Percentage of Morbidity

17. Percentage of Mortality

18. Probable source of the Infection (Give Details)
   - Feed / Water / New Arrival / Cattle show / Market / Migratory Movements / Industrial Pollution / Animal bite / History of Disease nearby.

19. Previous History of Disease with Year

20. Clinical Symptoms shown

21. No. of P.M. Exam. done with dates

22. Important P.M. Findings
113

23. No. of cases, in which material was sent for Laboratory diagnosis.
24. Laboratory confirmation (If any)
25. Treatment given and No. cured
27. Details of migration of the animals
28. Preventive measure taken with details

Place: .................................................. Signature: ..................................................
Date: .................................................. Designation: ..................................................

APPENDIX - V

METHODS OF PREPARATIONS OF LABORATORY REAGENTS

1. Formalin solution 10% / (Histo-pathological specimen)
   Formalin (Neutral C. P.) .................................. 10 ml.
   Physiological saline ..................................... 90 ml.

2. Physiological saline :— Sodium chloride.(C. P.)
   Distilled water, ......................................... 1000 ml.

3. Glycerine saline (50%) Glycerine (Neutral)
   Normal Saline ........................................... 50 ml.

4. Buffer Water :— 5.47 gm. Mono-basic potassium Phosphate (KH₂PO₄)
   3.80 gm. Diabasic Sodium Phosphate (Na₂HPO₄)
   1000 cc. Distilled Water pH 6.6

5. Hayem’s fluid (R.B.C. Count) :— Mercuric Chloride
   Sodium Sulphate ........................................ 5.0 gms.
   Sodium Chloride ........................................ 1.0 gms.
   Distilled water ........................................ 200 ml.

6. W.B.C. diluting fluid :— Glacial acetic acid or Hydrochloric acid
   Gention violet 1%
   Distilled water ........................................ 100 ml.

7. Anticoagulants :—
   (i) Sodium citrate
       Distilled water .................................... 3.8 gms.
       100 ml.

   (ii) Heller and Paul solution :—
       Ammonium Oxalate .................................. 1.2 gms.
       Potassium Oxalate .................................. 0.8 gms.
       Distilled water .................................... 100 ml.

   (iii) E.D.T.A. - 1 to 2.0 mg. per ml. of blood,

   (iv) Heparin 1% solution 0.1 ml. per 5 ml. of blood.

8. A.C.D. Solution ‘B’ (For blood transfusion)
   Sodium citrate dehydrate ................................ 1.37 gms.
   Anhydrous citric acid ................................ 0.44 gms.
   Hydrous dextrose ........................................ 1.47 gms.
   Distilled water ......................................... 100 ml.
   One part of A.C.D. to 4 parts of blood.
9. Hydrochloric acid solution (Haemoglobin determination) — N/10.
   Con. HCl
   Distilled water
   
10. Oxalate — Carboxyl Glycerine (O.C.G.) or Oxalate phenol
   Glycerine (O.P.G.)
   Potassium Oxalate
   Phenol (carbolic acid)
   Glycerine
   Distilled water.
   
O.C.G. and blood are mixed in equal proportions. This is used in collection of blood for virus insolation of ‘Blue Tongue’ in sheep.

11. Potassium dichromate solution (for Coccidial oocysts).
   Potassium dichromate
   Distilled water.
   
12. Cleaning solution for glass-ware.
   Commercial potassium dichromate
   Commercial Sulphuric acid
   Tap water
dissolve potassium dichromate in tap water by heating and then slowly add sulphuric acid stirring continuously.

13. Carbol saline — Carbolic acid
   Normal saline
   
14. Phenol 0.5% or merthiolate solution 1: 10,000 is suitable for blood serum to be used for serological tests, (one part of 5.0% phenol or 1: 1000 merthiolate solution to 9 parts of serum).

15. Robert’s reagent (albumin determination) —
   Saturated solution of Magnesium sulphate
   Con. Nitric acid.

16. Rothera’s Reagent — Ammonium nitrate
   Sodium nitroprusside
   Distilled water

17. Benzidine solution (for occult blood)
   Glacial acetic acid
   Benzidine base to make
   Saturated solution.
   Supernatant solution of this is added to 2 ml. of active hydrogen peroxide.

18. Sulkowitch Reagent (for urinary calcium)
   Oxalic acid
   Ammonium Oxalate
   Glacial acetic acid
   Distilled water

A standard solution is one in which the concentration of solute substances are dissolved in exactly known solvent so that it can be used in qualitative clinical diagnosis.

A molar solution (M) contains one molecular weight in grams of the dissolved substance in one litre of final solution.

A normal solution (N) contains one gram atom (1.008 gm.) of reacting hydrogen in one litre of final solution.

To prepare a lower grade from a higher grade, take the number of ml. corresponding to the grade required and add water to make in volume the grade diluted.

Example — To prepare 50% alcohol from 90% take 50 ml. of 90% alcohol and add water to make upto 90 ml. i.e. 40 ml.
APPENDIX – VI

SCHEDULE OF VACCINATION IN LIVESTOCK AND POULTRY

1. Material Antibodies.— For satisfactory results vaccinations should be done when the maternal antibodies disappear in the young ones. It is generally assumed that maternal antibodies are, in most species lost by the 6th week of life, (Exception in Rinderpest). However, a few individual animals will still show protection at this time, though a few other will have lost it much earlier (Merbert 1979).

2. Age at Immunization.— Animals become immunologically mature after the age of 3 months and thus give effective response to vaccinations. But sometimes in the high risk area/period, vaccinations are done earlier also.

3. Scheduling or timing of vaccination.— Vaccines are to be administered well in advance of the possible exposure to infection. If 2 or 3 diseases are likely in a particular period, advantage is taken of the immunity periods of the respective vaccines in (Scheduling) them. It may be noted that almost all vaccines, except H. S. (Alum Precipitated) and F.M.D. vaccines, have long immunity periods of 1 year or more. Therefore, extra care is required in administering H. S. (A. P.) and F.M.D. Vaccines. They are therefore, given just 3-4 weeks before likely exposure.

4. Antigenic Competition.— In some cases, it may be a bad thing to give live vaccine and a dead antigen at the same time. Due to multiplication in the body the live-vaccine may produce so much antigen that it swamps the system. On the other hand, to give two live virus vaccines simultaneously may be equally ineffective, the one which is able to grow faster may monopolise the sites of the virus growth favoured by the other, and by initiating interference on production cause elimination of the weaker virus before immune system has been stimulated by it.

5. One Vaccine at a time is better.— Therefore, in general, more than one vaccine should not be given at the same time unless the manufacturers instructions indicate that it is safe to do so. Normally, a period of 3-4 weeks time is allowed between completion of one course of vaccination (Initial followed by a booster e.g. Enterotoxaemia) and administration of other different vaccine.

6. Tactical Vaccination.— Apart from the following strategic vaccinations, tactical vaccinations particularly in F.M.D. and H.S. (A.P.) may be undertaken in places/periods of high risk (i.e. when outbreaks are prevailing in the neighbourhood).

Calves which are not vaccinated by T.C.R.P. on the ground that they are not above 6 months of age, require to-be vaccinated when they attain the age of 6 to 9 months. Thus the schedule of strategic vaccination is not disturbed.

Timing of strategic vaccinations is also not very rigid e.g. if some other outbreak has occurred in a particular month and prophylactic measures are being undertaken for the outbreaks on hand. It is very advantageous if meteorological conditions/reports are taken into consideration for scheduling of vaccination. If the meteorological reports say that in a particular year the monsoon is earlier or later than usual, the Agricultural marketing season, sugarcane crushing season will also be earlier or later. Thus, if these seasons are early (Say October) F.M.D. Vaccinations may be done in September only (instead of October), late, say December, (in the year of famine,) the vaccinations against F.M.D., may be post-poned to November. Thus there is scope for discretion, and the suggestions given need not be followed mechanically.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Vaccination against No.</th>
<th>Period of Vaccination</th>
<th>Dose and Route</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foot and Mouth Disease (Nature of Vaccine used)</td>
<td>October</td>
<td>As per Manufacture's Instructions</td>
<td>Schedule of F.M.D. Vaccination, (from Printed leaflets)</td>
</tr>
</tbody>
</table>

(1) Cattle and Buffaloes etc.

1. Foot and Mouth Disease (Inactivated Vaccine.)

(1) M/s. Hoechst India Ltd.

Initial.— At the age of 3 weeks and onwards.

Booster.— Within 3 months after initial Vaccination.

Revaccination.— Every 6 months.

Dose.— Cattle, Buffaloes, 10ml/sc. Calves.

Sheep and Goat.— 5 ml/sc.

(2) BAIF.—

Age of animal at -

Primary vaccination. Young Calves - 4 to 6 months

Adult animals.

Repeat (Booster) Vaccination - Calves - 4 months of age and 6 months after.

Young Calves - 6 months later

Adults - 3 to 4 months later.

Revaccinations.— At 6, 9 or 12 monthly intervals Cattle,

Dose Buffaloes and Calves.—10 ml sc.

Sheep and Goat.— 5 ml sc.
1. **Foot and Mouth Disease (Inactivated Vaccine.) — Contd.**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foot and Mouth Disease (Inactivated Vaccine.) — Contd.</strong></td>
<td><strong>M/s. Indian Immunologicals (Raksha)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Vaccination</td>
<td>4 months</td>
<td></td>
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<tr>
<td></td>
<td>Repeat (Booster)</td>
<td>2 to 4 weeks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revaccinations</td>
<td>6 months intervals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dose.— Cattle, Buffaloes, Sheep and Goat.</td>
<td>Calves 3 ml/sc</td>
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<tr>
<td></td>
<td>1 ml.</td>
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</tr>
<tr>
<td>3. <strong>Enterotoxaemia (Toxoid and dead bacteria)</strong></td>
<td>Premonsoon and Post monsoon.</td>
<td>Calves 5 ml. and adults 10 ml. with a booster dose after a fortnight.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Only in the endemic area and where the disease has been confirmed.</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Anthrax (Spore Live Vaccine)</strong></td>
<td>February (Preferably before monsoon)</td>
<td>1 ml./S/c.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. <strong>Black Quarter (Toxoid and dead bacteria i.e. anaculture).</strong></td>
<td>April (Before rainy season)</td>
<td>5 ml./S/c.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. <strong>Haemorrhagic Septicaemia (H.S.)</strong></td>
<td>May, June</td>
<td>5 ml. (Alum. PPT S/c) or (Oil adjuvant deep l/m) 3 ml.</td>
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</tr>
<tr>
<td>7. <strong>Rabies (Post-bites)</strong></td>
<td>Immediately after suspected. Rabid dog bite</td>
<td>Adult above 1 year age 10 ml. S/c. for 14 days continuously and below 1 year 4 ml. S/c. for 7 days continuously.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**II Sheep and Goats**

1. **Enterotoxaemia (Toxoid and dead bacteria)**
   - April/May
   - October/November
   - 2.5 ml. S/c. booster dose after 14 days

2. **Foot and Mouth Disease. (Inactivated vaccine)**
   - November
   - as per Manufactures instructions 5ml/lml.

3. **Sheep pox (Tissue Culture Vaccine)**
   - December
   - 1 ml. S/c.

---

Primary vaccination should be done after 6 months and a booster dose may be given on completion of one year, age. Exotics and Cross—breds be vaccinated annually and local animals once in 2-3 yrs. reconstituted vaccine should be utilized within 2 hrs. Cold chain should be maintained throughout.

Only in the endemic area and where the disease has been confirmed. Use vaccine of 'C or 'D or of both strain depending upon the type confirmed.

Only in endemic area where outbreaks took place the previous year.

E. T. Affects sheep of all ages and occurs in all seasons under widely differing type, where mortality is seen in very young lambs i. e. upto 6 weeks of age, protection of the lambs is best accomplished by immunising the ewes with two doses of vaccine. First dose before beginning of monsoon and the 2nd at 4 to 4½ months gestation. In subsequent years ewes may be given only one vaccination at 4 months gestation. The passive immunity conferred on the lamb lasts for 6 weeks only. In sheep which are annually vaccinated the lamb mortality may be seen later in their age.

Only where FMD is endemic in sheep manufacturers instructions be noted while vaccinating.

It is not to be used for goat pox. First vaccination after 3 months of age.
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Black Quarter (Anaculture)</td>
<td>January</td>
<td>2 to 3 ml. S/c.</td>
<td>A month before shearing operation only in endemic area is noticed.</td>
<td></td>
</tr>
<tr>
<td>6. Anthrax (Spore Live Vaccine)</td>
<td>April</td>
<td>0.5 ml. S/c.</td>
<td>Only in endemic area.</td>
<td></td>
</tr>
<tr>
<td>7. Rinderpest (T.C.R.P.)</td>
<td>February</td>
<td>1 ml. S/c.</td>
<td>Only in endemic area, whenever Rinderpest is confirmed in sheep and goats, cattle in the area may be also vaccinated but reverse is not true.</td>
<td></td>
</tr>
</tbody>
</table>

### (III) PIGS

1. Swine Fever (Live Vaccine)

   - 1 ml S/c

### (IV) DOGS

1. Prebite ARV.

   - 5 ml S/c

   Pups over 3 months of age to be repeated after six months, then annually.

### (V) SCHEDULE OF VACCINATION IN POULTRY

1. MAREK’S Disease (H. V. T.)

   - 1st day of age of chicks in Hatcheries: 0.2 ml. S/c.

2. Ranikhet Disease

   - (a) Lasota 1st: 5th to 7th day of age 1 Drop in each nostril or intraocular

   - (b) Lasota 1nd (dose): 28 to 30 days after 1st Lasota.

   - (c) R2B Strain (Mukt.): 8 to 10 weeks 0.5 ml. S/c. or I/m.

   - (d) R2B Strain (2nd dose): 16 to 18 weeks i.e. prior to laying 0.5 ml. S/c. or I/m.

   Repeat R2B Strain

   - 50 week of Age: 0.5ml. S/c. or I/m.

   - Fowl Pox. Live adapted strain

   - 6-8 weeks: Wing web with Lancet.

   - 16 weeks i.e. prior to laying: Same as above.

3. Fowl Pox. (2nd dose)

   - 16 weeks i.e. prior to laying: Same as above.

4. Gumboro (IBD)

   - At the age of 21 days: As per manufacturer’s instructions

   - Gumboro (Booster): 18 to 19 weeks

   - 14 to 16 weeks: 1 drop each.

5. Infectious Bronchitis

   - *1st vaccination along with Lasota

   - Intranasal or-If Ocular.

   - In high risk area: -Do-
6. Spirochaetosis

- 0.5 ml/kg. I/m in Brisket or as per manufacturer’s instructions. Necessary when the incidences are seen.

N. B.- Lasota in drinking water is also given in case of outbreak by taking following precautions:—

1. Estimate the water consumption in one hour depending upon season.
2. See Water is (potable devoid) of any minerals and suspension.
3. Sanitize Water with “Medichlor” early day.
4. Fix vaccination time late in evening.
5. Starve the birds 2 to 3 Hrs. in advance.
6. Wash waterers thoroughly.
7. Prepare or reconstitute vaccine in chilled water with the stabilizer. (Skimmed milk powder) at rate of 0.6%.
8. Add the stabilizer to the rest of water.
9. Mix reconstituted vaccine to the total quantity of water and distribute in the waterers.
10. Place waterers in the pens within the shortest time to facilitate all birds to consume water.
11. Do not use commercial ice directly into drinking water.

**Dose:** Dose should be 1½ (one and half times) times than the normal dose.

---

**APPENDIX - VII**

**VETEROLEGAL / (MEDICOLEGAL PROCEDURES)**

**Medicolegal Post-mortem Examination:**

1. Read the letter received from Police Authority very carefully and follow judiciously.
2. Have a Police representative present during post-mortem examination.
3. Disallow other unauthorized person/s to be present.
4. Do the post-mortem in day light and before the on set of putrificactive changes.
5. Examine every organ and the other details even though the cause of death is found in the initial stage of examination.
6. Take the following with you.—
   (i) Measuring tape for measuring injuries.
   (ii) Empty bottles of wide mouth for collecting Viscera.
   (iii) Microscopic slides and clean papers, small notebook and pencil to write down every detail on the spot.

**MEDICOLEGAL EXAMINATION ON A LIVE ANIMAL**

It is done usually in cases of accidental injuries, weapon injuries, maiming, and other offences.

(i) Give a correct and complete description of the animal,
(ii) Describe the injuries in detail (Age, Size, Directions, Situation etc.).
(iii) Mention the probable cause of injuries.
(iv) Give prognosis of injuries, postpone giving your final opinion if necessary to observe after some treatment.
(v) Give your opinion as to whether the animal would be permanently useless for the purpose it is meant.

**Common offences against animal**

(i) **Mischief:**—Killing, Poisoning and maiming (Rendering the animals permanently useless phookapactice, inducing abortions by hitting or injuring the animal.
(ii) **Cruelty against animals:**—Beating, overloading, Phookapactice etc. are punishable under the prevention of cruelty to Animals Act 1890.
(iii) **Bestiality:**—Unnatural voluntary sexual-intercourse with animals by man or women, punishable under section 377 of I. P. C. Examine the genital-organs and collect swabs or washing for precipitation test by forensic laboratory.
(iv) **Frauds:**—(a) Alteration of description,
    (b) Bishopping,
    (c) Adulteration of milk and meat.
Differentiation of various meats

**Mutton** (Sheep Meat):— Dark red, has ammoniacal odour, rich fat depositions between groups of muscles, fat is white, hard and not intermixed with muscles, wool fibres adhering.

**Goat Meat** :— Paler than mutton; peculiar goat smell.

**Pork** :— Soft consistancy, fat intermixed with muscles, fat granulated white and with ammoniacal odour.

**Dog Meat** :— Dark red in colour with fat intermixed with muscles.

**Beef** (Cattle Meat and Buffalo):— Red in colour with brownish tinge, and fat intermixed with muscles and the fat is yellowish in colour.

**Horse Meat** :— Dark red to brown red in colour, becomes blackish when exposed to air, fat colour is golden to dark and bone marrow is greasy.

Court Witness

1. Attend the Court as per summons unless physically unable to attend or for valid reasons. The inability to attend the Court be intimated well in advance.
2. Attend with original papers concerned to the case and duly prepared to answer the probable questions.
3. Always stick to the statements that you have made in the original reports and as far as possible avoid more technical words.
4. Answer the question with 'YES' or 'NO' as far as possible if unable to answer, Say "I CANNOT ANSWER".
5. Do not lose your temper even though the Lawyer puts you embarrassing questions for which he is at liberty.
6. Express opinion from own knowledge and experience but with proof the replies should be brief and to the point only.

**IMPORTANT ACTS AND THEIR PROVISIONS**

1. **Glanders and Farcy Act, 1889**
   A graduate Veterinary Officer appointed as an 'Inspector' under the provisions of the Act can examine any horse suspected to be suffering from glanders and if confirmed after Mallein Test the Horse has to be destroyed and premises disinfected 'Compulsorily'.

2. **Prevention of Cruelty to Animals Act, 1890**
   The beating, overloading starvation, cruelty treatment by quacks, using sick animal for work etc. are punishable offences.

   When any contagious disease is prevailing in any area, the same can be declared as "Infected Area" by approaching the Collector of the district under the provision of this Act, Cattle Movements cattle markets, fairs rallies, exhibitions etc. can be prevented to stop the spread of disease. Prophylactic vaccination can be made compulsory and sick animals can be detained and/or isolated.

   The Important provisions are as under :
   
   (i) Slaughter of cow is totally banned (The cow included heifer or male or female calf of a cow and the male calf below 1 year age).
   
   (ii) The animals included in the schedule for which a certificate can be issued are, Bull, Bullocks, Female, Buffaloes, Buffalo-calves (Both male and female) male buffaloes under one year are not included in this schedule.
   
   (iii) Only those officers (now designated as Livestock Development Officer) who are declared as competent authority can issue the certificates under this Act.
   
   (iv) The Officers who are competent to declare the place of slaughter are the chief Municipal Officer, and Municipal Commissioner for their respective Jurisdiction and for the remaining area the District Animal Husbandry Officer of the district.
   
   (v) She buffalo or female buffalo calf over one year which is likely to be economical for giving milk or bearing offspring can not be certified. The animal with permanent damage to the udder and reproductive organs can be passed.
   
   (vi) Bulls which could be useful for breeding draught or any kind of Agricultural operation cannot be passed. Bullock which could be uneconomical for draught or Agricultural operation also can be passed.
   
   (vii) Certificate need to be issued in the prescribed form.

_N. B._:— For details, provisions of various original Acts be Referred.
## Important Zoonotic Diseases

**Diseases of livestock and poultry communicable to man**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Disease</th>
<th>Animal Hosts</th>
<th>Etiology</th>
<th>Mode of Transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anthrax</td>
<td>Cattle, Sheep, Goat, Horse, Dog, Pig.</td>
<td>B. Anthracis</td>
<td>Infected wounds/ contact</td>
</tr>
<tr>
<td>3</td>
<td>Leptospirosis</td>
<td>Cattle, Pig, Dog, rhodents.</td>
<td>L. ictero-Haemorrhagic.</td>
<td>Infected Urine.</td>
</tr>
<tr>
<td>4</td>
<td>Listeriosis</td>
<td>Cattle, Sheep, Goat.</td>
<td>L. Monocytogenes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Tuberculosis</td>
<td>Cattle</td>
<td>Mycobacterium tuberculosis, Myco. bovis, Myco. Avian</td>
<td>Infected meat, milk.</td>
</tr>
<tr>
<td>6</td>
<td>Swine Fever</td>
<td>Pigs</td>
<td>Coxiella burneti</td>
<td>Air borne.</td>
</tr>
<tr>
<td>7</td>
<td>Glanders</td>
<td>Horse, mules, donkey</td>
<td>Maleo myses maller</td>
<td>Direct/Indirect contact with-infective Lesions.</td>
</tr>
<tr>
<td>8</td>
<td>Salmonellosis</td>
<td>All Livestock and Poultry</td>
<td>Salmonella Sp. pullorum/ gallinarum</td>
<td>Ingestion of infected milk/meat etc.</td>
</tr>
<tr>
<td>9</td>
<td>Psittacosis</td>
<td>Poultry, Parrots, etc.</td>
<td>Cl. Prittoci</td>
<td>Direct contact or inhalation of infected droplets.</td>
</tr>
<tr>
<td>10</td>
<td>Typhus</td>
<td>Rhodont, Sheep, Goat-dog.</td>
<td>R. promozekiityphi</td>
<td>Classical typhus, tick, mite borne.</td>
</tr>
</tbody>
</table>

### Viral Diseases

1. Rabies
   - Dog and Cat
   - Virus
   - Infective Saliva,

2. Encephalitis
   - Birds, Sheep, Equines
   - Arthropod borne viruses

3. Avian Influenza
   - Birds
   - Viruses-Avian Influenza Virus - Type - A
   - Airborne, Infective of Birds

4. Ranikhet (New Castle)
   - Poultry
   - Laboratory/respiratory-routes

5. Rift Valley fever
   - Sheep
   - ...

### Protozoal Diseases

1. Leishmaniasis
   - Dog, Cat, Rhodesants
   - L. donavani tropica
   - Through bite of vectors

2. Trypanosomiasis
   - Wild game and domestic animals
   - Tryp. ganbiase Brucel.
   - -- Do --

3. Chaga’s disease
   - Cats, Dogs, etc
   - Tryp. Cruzei
   - -- Do --

4. Toxoplasmosis
   - Dogs and Cats
   - Toxo gondii
   - -- Do --

### Helminthic Diseases

#### (A) Trematodes

1. Clonorchis sinensis
   - Cat, Pigs and Dogs
   - Through infected water, food and intermediate hosts.

2. Paragonimus Westermannii
   - -- Do --

3. Schistosomiasis
   - Ruminants, Swine Cat and Dogs
   - -- Do --
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Disease</th>
<th>Animal Hosts</th>
<th>Etiology</th>
<th>Mode of Transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Cestodes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Diphyllobothrium Latum</td>
<td>Fishes, Carnivores</td>
<td>..</td>
<td>Through infected water, food and intermediate hosts.</td>
</tr>
<tr>
<td>2</td>
<td>Dipylidium Caninum</td>
<td>Dogs, Cats</td>
<td>..</td>
<td>- Do -</td>
</tr>
<tr>
<td>3</td>
<td>Echinococcosis</td>
<td>Dogs, Swine, Ruminants</td>
<td>..</td>
<td>Through infected water, food and intermediate hosts.</td>
</tr>
<tr>
<td>4</td>
<td>T. Saginata solium</td>
<td>Cattle, Pigs</td>
<td>..</td>
<td>Infected meat and pork.</td>
</tr>
<tr>
<td><strong>(C) Nematodes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Dioctophyma renale</td>
<td>Dogs and Fishes</td>
<td>..</td>
<td>Through infected food/water intermediate hosts.</td>
</tr>
<tr>
<td>2</td>
<td>Toxocara canis, cati.</td>
<td>Dogs and Cats</td>
<td>..</td>
<td>- Do -</td>
</tr>
<tr>
<td>3</td>
<td>Trichinella spiralis</td>
<td>Swine, Rhodes</td>
<td>..</td>
<td>- Do -</td>
</tr>
</tbody>
</table>

**APPENDIX - IX**

**DISINFECTANTS TO BE USE AGAINST SPECIFIC ANIMAL DISEASES**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Disinfectants</th>
<th>Percent</th>
<th>Formula</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Crysylic Disinfectant</td>
<td>4</td>
<td>160 mlires in 4 litres of water.</td>
<td>Brucelosis, Hog Cholra, Swine erysipelas, Tuberculosis</td>
</tr>
<tr>
<td>2</td>
<td>Sodium Carbonate (Sod. Ash)</td>
<td>–</td>
<td>450 gms. in 11 litres of water.</td>
<td>Foot and Mouth Disease, Vesicular stomatitis.</td>
</tr>
<tr>
<td>3</td>
<td>Sodium hydroxide (NaOH)</td>
<td>2</td>
<td>383 gms. in 19 litres of water.</td>
<td>As above.</td>
</tr>
<tr>
<td>4</td>
<td>Sodium Hydroxide (Lye-NaOH)</td>
<td>5</td>
<td>2 Kg. in 38 litres of water.</td>
<td>Anthrax Black leg.</td>
</tr>
<tr>
<td>5</td>
<td>Sodium Orthophenyl-phanate</td>
<td>1</td>
<td>450 gms. in 45.8 litres of water.</td>
<td>Tuberculosis, Infectious Laryngo tracheitis.</td>
</tr>
<tr>
<td>6</td>
<td>Lysol or Hypochlorite</td>
<td>4</td>
<td>(2.3 available Chlorine)</td>
<td>Blue tongue, Brucella melitensis, canine Brucellosis, Equine Influenza, Haemorrhagic septicaemia, Rabies, Rinderpest Sheep pox, swine fever, Contagious bovine pleuro-pneumonia, Glanders.</td>
</tr>
</tbody>
</table>

**APPENDIX - X**

**SOME DO’S AND DONT’S IN FLUID THERAPY**

*Route of Administration of Fluid*

Fluid administration to sick animals depends upon.

1. Type of illness and severity of conditions.
2. Degree of dehydration.
3. Condition of patient.
5. Types of electrolyte imbalance.
6. Time and equipment availability.

(A) **Oral Route.**— Always prefer isotonic fluid. It is least dangerous.

(B) **Per Rectum.**— More, useful in young animals, Warm water, K, Na, Cl.

(C) **Intravenous Route.**—

1. Always prefer isotonic fluids.
2. Prefer only in severe disturbances of fluid and electrolytes.
3. Rate of administration is more important than the volume and composition.
4. Do not use too hypotonic solutions.
5. Site of injection is very important.
6. Asepsis is another important factor.

(D) Subcutaneous Route.—
1. Preferred more in small animals than in large animals.
2. Only isotonic solution must be preferred.
3. Dextrose of any tonicity or any solution lacking electrolyte in isotonic level should not be given in S/C route.
4. Contra indicated during oedema.
5. If periphery is not cold, fluid will be absorbed in 5 to 6 Hrs.
6. Hyalase is not necessary in Veterinary practice.

(E) Intraperitoneal route.—
1. Preferred in large animals’ practice.
2. Asepsis is more important.
3. Other conditions are the same as to S/C route.

Rate of Administration of Fluid.—
Rate will be parallel to severity of dehydration. First rapidly then slowly.

First hour — 13-14 ml. / kg. / hour. Until urine flow restored.
   OR
   6 ml. / 1 b / hour. First 40-60 minutes.

Second hour — 10 ml. / kg / hour-continuously.
If no urine voided / within 60 minutes reduce the rate approximately by 1/3 rd I. e. 9 ml. / kg. for second hour.

Third hour — 5 ml. / kg.

Fourth hour and Subsequent hours – 2 ml. / kg.

Testing the function of kidney – is very important before fluid therapy.

Give First 50% glucose 1-25 ml. (depending upon the size). Then check the urine for the presence of glucose. If glucose is present the kidney is normal. Clinical observation of animal is very important during the flow. Do not give too fast in the case of severe dehydration and shock.

Drug contraindications :-
Do not mix sulphur drugs and calcium and Dextrose.
Do not mix oxytetracycline with many solutions.
Try to avoid mixing too many drugs in fluids.
Do not mix Chloramphenical and Vitamin ‘ B ’ complex together with fluids.

TYPE OF SOLUTIONS COMMONLY USED IN PRACTICE

(A) DEXTROSE SOLUTION.
(B) SODIUM CHLORIDE SOLUTION.
(C) RINGER’S SOLUTION.

Alkalizing solution
(D) Lactated Ringer’s solution.
(E) Accetated Ringar’s Solution.
(F) Sodium Bicarbonate Solution.
(G) 1/6 molar lactate solution.

Other fluids
(H) Calcium Borogluconate.
(I) 20% Mannitol.
(J) Acid Sodium Phosphate Solution 20%.
**Acidifying Solution**

Isotonic Saline – 0.9% Ammonium Chloride solution.

Dextrose solutions – Dextrose solutions are available in 2.5%, 10%, 20% (5% solution is Isotonic which is only preferred in routine use).

**Indications:**

(V) I. To prevent (1) Dehydration, (2) Excess tissue catabolism, (3) Depletion of Liver Glucose and (4) Ketosis.

II. In hepatic, renal, cardiac and gastro-intestinal diseases.

III. Promote Sodium excretion.

IV. In Trypanosomiasis.

V. Hypertonic solution must be used only in increased intracranial pressure, that too only once.

VI. 40%, 500 ml. must be followed after calcium borogluconate in case of Transit Tetany.

**Dose.** — In general, dextrose requirement must be calculated based on energy requirement of animals. Calculation based on body weight in Kilograms.

First 10 Kg. body weight required 100 calories.

Second 10 Kg. body weight required 50 calories.

The rest of body weight required 20 calories per Kg. e.g. A 220 Kg. animal will require

\[
\begin{align*}
10 \times 100 & \quad 1000 \\
10 \times 50 & \quad 500 \\
200 \times 20 & \quad 4000 \\
\text{Total} & \quad 5500 \\
\end{align*}
\]

Normally, 2.5 per cent Dextrose, one litre will give only 100 calories of energy 5% Dextrose, one litre will give only 200 calories of energy. Based on this principle, total requirement of energy for 24 hours must be calculated and according to the dehydration level the fluid must be given.

**Contra-Indication**

1. Don't give in case of milk fever.
2. Do not give in case of intracranial haemorrhage.
3. Do not give following blood transfusion.
4. Do not give in overhydration.

**N. B.** — In case of Toxaemia, Dextrose must be given by mixing With B Complex, Sodium Chloride solution, Sodium Chloride preferred as 0.9 per cent solution with Dextrose. But 5% solution preferred in severe depletion upto 1.5 litres.


**Contra-Indications** — In case of oedema and Ascites, Sodium Chloride solutions are contra-Indicated.

**C. Ringer’s Solution** — (1) Dehydration.

(2) Mild alkalosis or Hypochloremia.

**Dose** — 30 ml./kg. Body weight / hour.

**Contra-Indications** — Do not use in milk fever cases.

(D) Lactated Ringer’s Solution

**Indications** —


**Dose** — 5 to 10 ml/kg. body weight.
Contra-Indications

1. Hepatic disorders,
2. Anoxia due to shock,
3. Congestive heart failure,
4. Severe acidosis,
5. Severe Metabolic Alkalosis,
6. In Rumen Acidosis of Cattle.

(E) 1/6 Acetatated Ringer's Solution

Preferred in case of mild rumen Acidosis in Cattle at the rate of 5-10 ml./kg. body weight.

(F) Sodium Bicarbonate Solutions

1.3% Sodium Bicarbonate solution is preferred in the initial stage of D-Lactic acidosis in cattle at the rate 1.5 ml./kg. body weight to be given in 6-12 hours.

In late stage of D-Lactic acidosis, 5 per cent Sodium Bicarbonate about 5 litres for 450 kg. body weight to be given initially. Then follow with 1.3 per cent Sodium Bicarbonate solution.

(G) 1/6 Molar Sodium Lactate Solution

Indications:
1. Metabolic acidosis not of anoxic origin.
2. To produce prompt alkalinity of urine before giving sulpha drugs.
3. To prevent the renal damage, and haemoglobinurea after-blood transfusion.
4. For treatment of myohaemoglobinuria in horses.

Dose: — 25 ml./kg. body weight intravenously.


(H) Calorol 25% Solution

Indication: — (1) In milk Fever, (2) Ruminal atony.

Dose: — For milk fever: 3 GM/10 lb. body weight in 75 minutes.

For heavy cows (1200-1300 lb.) 800-1000 ml.

For small cows (700-800 lb.) 400-500 ml.

50% of total dose must be given in I/V and the rest in S/C. Low doses in practice will lead to more complications than cure.

Subcutaneous injections are preferred in early stage during restlessness and also in conditions like Septicaemia, Pneumonia, Metritis, Severe toxaemia with the heart rate of 180/minute and above.

Care to be taken during intravenous injections of calcium:—
1. Speed of injection: Initially give 250 ml./I/V in 19 minutes and watch for reaction and then proceed.
2. Do not give to excited or frightened animal. The animal will die due to undue sensitivity of adrenaline.
3. When affected animals exposed to sun, or hot humid atmosphere or that heat stroke the calcium injection leads to toxicity. Before giving I/V injection bring the body temperautre below 103° F.
4. After many times of calcium injection by S/C by others, if you give, normal does of calcium I/V, the animal will die due to toxicity. This is due to lack of absorption calcium during S/C injection due to poor peripheral circulation.

After I/V Calcium injection, circulation improves and absorption increases and leads to toxicity. Antidote for calcium toxicity is injection of Atropine sulphate.

(I) Acid Sodium Phosphate

Post parturient Haemoglobinuria especially in buffaloes should be treated with 60 cm. Acid Sodium Phosphate in 800 ml. water I/V very very slowly. Same dose orally in every 12 hours interval for 3 times.
**20% Mannitol**

20% :- Mannitol is given to decompress the Intra-cranial pressure.

*Dose* :- 1 Gm/lb. body weight slow I/V. It relieves the pressure after 30-60 minutes after injection. But effect last only for hours. To prolong the effect Dexamethasone after 3 hours of Mannitol injection is suggested.

**N.B. :-**
1. This solution should not be repeated often.
2. This solution should not be given in shock.
3. This solution should be given I/V slowly.
4. Transient increase of volume will produce left side, failure of heart and pulmonary oedema.
5. Transient rise of Blood Urea Nitrogen (BUN).
6. Hypertonic solution in I/V will be dangerous since it produces temporary initial decompression followed with increase of C.S.F. pressure after 4-6 hours.
7. Contra-indicated in intra-cranial haemorrhage.

---

**APPENDIX - XI**

Information to be accompanied while sending material for diagnosis of Poultry Diseases.

1. Name and Address of Poultry Farms :-

2. Source of Birds

3. Breed/Strain

4. Sex

5. Strength of flock

6. Age and Date of hatch

7. Date of first appearance of disease

8. Date of deworming and debeaking

9. Mortality Pattern

10. Methods of rearing

11. Brooding Method

12. Vaccination Status

13. Feed Consumption

14. Source of water and water consumption

15. Egg Production (In layers)

---

This information must necessarily be given when the mortality in chicks under the brooders.

In order to assess the breed-susceptibility.

This information is applicable for breeder flocks only and not for commercial flocks as males are not kept.

Flockwise / Penwise.

Flockwise / Penwise.

Datewise mortality be given from the date of first appearance, till the date of visit with special reference to pen and birds kept therein.

Sudden Mortality/gradual mortality rapid spread/slow spread, throughout the day or only in the night, percent of mortality on flock basis/pen basis. No sick birds recovered/has the disease been previously seen ?

Free range / semi intensive / deep litter cage system / California system.

If on litter, type of litter used *i.e.* rice husk/buggas etc and litter condition.

Whether the vaccination’s schedule such as Marek’s, R2B, Lasota, Fowl Pox has been followed. This information should be given with details of Brew No, and date whenever breakdown of immunity is suspected.

Ready made feed/ feed computed by the farmer. Feed analysis/ tested for fungal load. Whether there is sudden / gradual change of feed details of it.

Mention should be made of whether tap water/well water/whether given-adlib, etc.

If the investigation is for the slump in egg production of the flock then the datewise production of the flock affected should be given. If possible housewise study will be helpful.
16. Weight gain
17. Lighting arrangement
18. Environmental Conditions
19. Treatment given
20. Clinical Symptoms
21. Post-mortem lesions
22. Laboratory Examinations
23. Diagnosis
24. Any other relevant information

**APPENDIX - XII**

Guidelines for *Ante-mortem* Inspection of Animals and *Post-mortem* inspection of carcasses at a slaughter-house.

*Ante-mortem* Inspection

(1) Animals brought for slaughter should be examined for symptoms of communicable disease so that entry of such animals into the sheds is prevented.

(2) All animals meant for slaughter should be rested at least 24 hours and should not be fed for at least twelve hours before slaughter but they should be provided with abundant water.

(3) Such *ante-mortem* Exam, shall be made on the premises lairrgas attached to the abattoir. (i) In case of doubt as to the health of the animals, the representative of licensing Authority shall notify the nearest Veterinarian whose advice shall be followed. In order to obviate slaughtering of Anthrax infected animals a blood smear shall be examined from every animal that died while awaiting slaughter. Animals in contact should be segregated.

(4) In case of emergency, when *ante-mortem* inspection of animals is not possible, the butcher shall notify representative of licensing Authority after slaughtering and shall *not remove the carcass with its viscera from the abattoir till the *Post-mortem* examination is carried out.
During the inspection, following details should be noted:

(a) Evidence of cruelty to animals by over-trucking, over driving or by other means,
(b) Disease symptoms which may affect the general health of the animal or depreciate the meat.
(c) Presence of scheduled infectious and contagious disease or symptoms which may suggest that such disease is developing.
(d) Species, Sex, Colour, Age and Breed.
(e) Body temperature, whenever necessary.

In particular, attention shall be paid to the following:

(a) General condition, especially emaciation,
(b) Manner of standing and walking,
(c) Reaction to environment,
(d) Skin and Hair,
(e) Digestive system (Lips, mouth, anus, rumination, quality of faeces and appetite),
(f) Vulva, vagina and mammary glands, etc.
(g) Respiratory system (Nasal opening and respiration).

All animals showing signs of pregnancy shall be rejected and removed from the slaughter house after being marked with some distinguishing mark. Such as 'R' (Rejected).

No animal with young at foot shall be permitted to be slaughtered.

Every animal suspected on ante-mortem inspection shall be segregated and tagged as a suspect and slaughtered either in the emergency slaughter shall or when the slaughtering of the normal animals has been completed and subjected to detailed post-mortem 'scrutiny.

Any animal showing on ante-mortem inspection, a disease or condition that would necessitate condemnation of the carcass on post-mortem inspection shall be tagged as "Condemned."

Condemned animals shall, if not already dead, be slaughtered in emergency slaughter shall only and shall not be conveyed into any department of the establishment used for edible products.

Post-mortem Inspection:— The following instructions, indicate the order and method of inspection of all carcasses.

SECTION - I
General Principles to be observed

1. Visceras:— (a) All Viscera shall be examined as they are removed from the carcass or in such circumstances or as will ensure that they are viscera of a particular carcass.

(b) Every organ and the associated lymph glands shall be examined by the eye and palpation. When any abnormal condition is observed, the nature and significance of which cannot be determined, the examination the organ or gland shall be made in such manner as to avoid soiling or contamination or unnecessarily depreciating the Value of any part of the carcass or other organs that may be passed fit for human food.

(c) The efficient examination of lymph glands shall be made by multiple incisions into their substance.

2. Carcass:— (a) The carcass shall be examined for:

(i) Evidence of bruising, haemorrhage or discolouration,
(ii) Local and general dropsy (Oedema),
(iii) Swelling or deformities of bones or joints or swelling or other abnormality in the musculature.

(b) The serious membrances (pleura and peritoneum) shall be examined in every case, and in no case shall they be removed nor shall any evidence of disease be modified or obliterated by washing, rubbing, stripping or in any other manner before examination.

(c) After the carcass is split, the sternum, ribs, verterbrae and spinal cord shall be examined.

(d) Incision shall be made on each quarter in the musculature near the shoulder joint and near the pubic bone, without mutilating the carcass, for detection of cysts (cysticercus bovis and cellulosae).
SECTION II

Detailed instruction for routine inspection of carcasses of cattle (including Buffalo) and swine

1. Head :- The head, including (a) the surface and substance of the tongue (which should be loosened but not detached before examination).

(b) The palate or roof of the mouth,

(c) The lymph glands of the throat (Retropharyngeal submaxillary parotid) shall be examined by the eye and palpation, and the cheek muscles shall be examined on both sides by a linear incision parallel to the branches of the lower jaws.

NOTE :— (i) In the case of calves, lymph gland of the head shall only be cut in case of suspicion.

(ii) In case of cattle the muscles of mastication shall be examined by 3 to 4 linear incisions of 15 cm. length and 1.5 cm. depth to find out the presence of cysts of systemic bovis.

(iii) In the case of pigs, the portions of muscles from tongue, diaphragm and cheek shall be inspected under the microscope or trichinoscope for trichinellosis.

2. Abdominal Cavity :—

(a) Stomach, Intestines and spleen :- The outer, and when necessary the inner, surfaces of the stomach and intestines, and the surface and substance of the spleen shall be examined, together with the glands of the stomach and bowel (gastro-splenic and mesenteric) and the web (Omentum). The spleen shall be cut where necessary, for the examination of the substance (pulp).

(b) Liver :- The surfaces and substance of the liver shall be examined. The associated lymph glands (hepatic) shall also be examined and, the bile incised, where necessary.

(c) Kidneys :- The lymph glands of the kidneys (renal) and the adrenal glands shall be examined before the removal of the Kidneys. Thereafter the kidneys shall be exposed and surface examined if necessary and kidneys shall be split by incision and the substance examined.

(d) Uterus and Ovaries :- The inner and outer surfaces of the uterus and the substance of the ovaries shall be examined; Where necessary the uterus shall be cut transversely through both horns and also longitudinally.

(e) Urinary Bladder :- The outer and inner surface of the urinary bladder shall be examined by observation and by cutting only if it shows a diseased condition.

NOTE.— In reporting upon lesions included in paragraphs 2 (a), 2 (d) and 2 (e) special attention shall be paid as to whether the lesions affect the peritoneal surface or the organ itself. Unless care in this connection is evidenced statistical records become misleading.

3. Thoracic Cavity :— The contents of the thoracic cavity shall be examined before the various organs are separated from each other, and the following examination shall be made :-

(a) Lungs :- The lungs shall be examined by the eye, by palpation and unless obviously diseased, they shall be incised at the base. The associated lymph glands (Bronchial and mediastinal) shall also be, examined and unless obviously diseased shall be incised.

NOTE :— In reporting upon lesions included in paragraphs 3(a), distinction shall be made between lesion affecting the pleura and those affecting the lung parenchyma.

(b) Heart :- The heart sac (pericardium) shall be opened and the heart examined and if necessary, incised.

NOTE :— In reporting upon lesions in paragraph 3 (b) distinction shall be made between lesions of the pericardium, myocardium and endocardium.

4. Udder :- The udder shall be examined by observation and palpation, incision shall be made at the base of the teats and also into any indurated region in the substance of the gland, the associated lymph gland (supramammary) shall also be incised.

5. Testicle and Penis :- The outer surface and substances of the testicles and penis and superficial inguinal lymph glands shall be examined.

6. Serous Membrane :- (l) It will be observed that in all cases the following lymph glands must be examined as a matter of routine viz. — (a) Retropharyngeal (in bovines) and submaxillary (In swine), (b) Bronchial and mediastinal, (c) hepatic and (d) mesenteric.

(2) In the case of calf, special attention shall be paid to the naval and to the joints of the carcass.