



**VETERINARY RESEARCH INSTITUTE**  
**DEPARTMENT OF VETERINARY SERVICES**  
**MALAYSIA**



# **VRI GUIDELINES FOR SAMPLE SUBMISSION**

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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### INTRODUCTION

**VRI Guidelines for Sample Submission is a reference for all DVS personnel, veterinarians, government employees, farmers and stakeholders for submission of samples to Veterinary Research Institute, Ipoh (VRI). The guideline consists of a list of the disease diagnosed, available diagnostic method, types of samples required, minimum requirement for sample which includes the size, appropriate or suitable sample, sample transport media, optimum condition of sample for transportation, sample validity and the test method's turnaround time (TAT).**

**The information provided is expected to provide guidance to our client in the collection and handling of samples prior to submission to VRI. Rapid and accurate diagnostic is crucial especially for economically important diseases, zoonotic diseases and notifiable diseases. Hence, it all starts with a correct sampling and sample submission to the veterinary diagnostic laboratory. VRI is committed to continuously develop and provide the best diagnostic services for our clients in accordance to our function which is providing excellent diagnostic services for sustainable of animal industry in Malaysia.**



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LIST OF SUBMISSION FORM

| NO. | TYPE OF TEST/ TYPE OF SAMPLE   | FORM   |
|-----|--|--|
| 1.  | Post Mortem for all species  | MAKVET 01  |
| 2.  | Isolation of agents from<br>✓ Animal organs<br>✓ Environmental samples   | MAKVET 01  |
| 3.  | Molecular Detection  | MAKVET 01<br>MAKVET 05                             |
| 4.  | Serological test<br>✓ Bacterial diseases<br>✓ Viral diseases   | MAKVET 01 (for avian)<br>MAKVET 03 (for mammalian) |
| 5.  | Animal Feed<br>✓ Bacteria Culture<br>✓ Proximate Analysis  | MAKVET 01<br>MAKVET 04                             |
| 6.  | Delivery form inter laboratory   | MAKVET 05  |
| 7.  | Rabies   | MAKVET 05 (A)                                      |
| 8.  | Poison   | MAKVET 06  |
| 9.  | Veterinary Public Health specimen<br>✓ Milk, water (for Total Plate Count (TPC) and Total Density Solid (TDC) and pH only) | MAKVET 10  |
| 10. | Foot and Mouth Disease   | MFMDK 01   |



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### PATHOLOGY

| DISEASE/<br>PATHOGEN       | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------------|---|----------------------------|---|--|---------------------------------|---|
| All                        | Post Mortem   | All carcasses              | Fresh carcasses   | 2 - 4 °C   | 3 - 5 days                      | 3 days                                      |
| All diseases and<br>fungus | Histopathology<br>a) Haematoxylin &<br>Eosin<br>b) Grocott's<br>c) Giemsa | All of organs              | Tissue size:<br>2-3 cm in screw<br>cap container<br>(in formalin)<br><br>Ratio:<br>Tissue: formalin<br>(1:10) | Room Temp.   | Up to 1 year                    | 14 days                                     |
| Rabies                     | Fluorescent<br>Antibody Test<br>(FAT)                                     | Brain                      | Brain stem,<br>cerebellum,<br>cerebrum and<br>hippocampus   | 2 - 4 °C   | 1 - 3 days                      | 7 days                                      |



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### BACTERIOLOGY

#### LABORATORY TESTS FOR EQUINE DISEASES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHODS/ TEST            | TYPE OF SAMPLE<br>REQUIRED                            | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|--|---|---|--|---------------------------------|---|
| Glanders             | Bacteria isolation<br>& identification | a) Lymph nodes/<br>organs                             | Small piece/ 1 infected<br>lymph nodes  | Fresh/ -20°C   | 24 hours                        | 3 – 8 days                                  |
| Strangles            | Bacteria isolation<br>& identification | a) Nasal swab<br>b) Lymph nodes &<br>organs (abscess) | ✓ 1 unit of swab in<br>transport media<br>(amies charcoal/<br>without charcoal)<br>✓ 1 infected lymph<br>nodes<br>✓ Small piece organ<br>(1 inch thick) | ✓ Swab: 2 - 8 °C<br>✓ Organ: Fresh/ -20°C            | 24 hours                        | 3 – 8 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR BOVINE DISEASES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION                         | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days)                 |
|----------------------|---|--|--|--|---------------------------------|---|
| Brucellosis          | i. Bacterial isolation & identification<br>ii. PCR (for identification) | a) Aborted foetus,<br>b) Cotyledon, uterus & reproductive organs<br>c) Vaginal swab<br>d) Lymph nodes (Iliac/ Ischiatic/ Supramammary) | ✓ 1 unit of swab in transport media (Amies charcoal/ without charcoal)<br>✓ Small piece of uterus/ organs (1 inch thick) | ✓ Swab: 2 - 8°C<br>✓ Organ: Fresh/ 2 - 8 °C to -20°C                         | 24 hours                        | 2 weeks<br><br>3 – 5 days (PCR) for confirmation only       |
| Johne's Disease      | i. Bacterial isolation<br>ii. PCR (for identification)                  | a) Faeces<br>b) Rectal pinch   | Small amount of faeces/ rectal pinch   | Fresh/ 2 - 8°C   | 24 hours                        | 2 to 7 months<br><br>3 – 5 days (PCR) for confirmation only |
| Q Fever              | PCR   | a) Organ, aborted foetus<br>b) Whole blood<br>c) Vaginal swab  | ✓ Small piece organ<br>✓ Heparin tube<br>✓ 1 unit swab in transport media (Amies charcoal/ without charcoal)             | ✓ Organ: Fresh/ 2 - 8°C to -20°C<br>✓ Blood tube: 2 - 8°C<br>✓ Swab: 2 - 8°C | 24 hours                        | 3 – 8 days  |





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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR OVINE/ CAPRINE DISEASES

| DISEASE/<br>PATHOGEN          | DIAGNOSTIC<br>METHOD/ TEST   | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days)                 |
|-------------------------------|--|---|---|--|---------------------------------|---|
| Ovine/ Caprine<br>Brucellosis | i. Bacterial<br>isolation &<br>identification<br><br>ii. PCR (for<br>identification) | a) Aborted foetus,<br>b) Cotyledon, uterus &<br>reproductive organs<br>c) Vaginal swab<br>d) Lymph nodes<br>(Iliac/ Ischiatic/<br>Supramammary) | <ul style="list-style-type: none"> <li>✓ 1 unit of swab in transport media (Amies charcoal/ without charcoal)</li> <li>✓ Small piece of aborted foetus organs (1 inch thick)</li> <li>✓ Small piece of uterus (1 inch thick)</li> </ul> | <ul style="list-style-type: none"> <li>✓ Swab: 2 - 8°C</li> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> </ul>                                | 24 hours                        | 2 weeks<br><br>3 – 5 days<br>(PCR) for<br>confirmation only |
| Caseous<br>Lymphadenitis      | Bacterial isolation<br>& identification  | a) Lymph nodes<br>b) Pus<br>c) Organ  | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ 1 infected lymph nodes</li> </ul>  | Fresh/<br>2 - 8°C to -20°C   | 24 hours                        | 3 – 8 days  |
| Q Fever                       | PCR  | a) Organ, aborted foetus<br>b) Whole blood<br>c) Vaginal swab   | <ul style="list-style-type: none"> <li>✓ Small piece organ</li> <li>✓ Heparin tube</li> <li>✓ 1 unit swab in transport media (Amies charcoal/ without charcoal)</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> <li>✓ Blood tube: 2 - 8°C</li> <li>✓ Swab: 2 - 8°C</li> </ul> | 24 hours                        | 3 – 8 days  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR POULTRY DISEASES

| DISEASE/<br>PATHOGEN                | DIAGNOSTIC<br>METHOD/ TEST   | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-------------------------------------|--|--|---|--|---------------------------------|---|
| Fowl Cholera<br>(Pasteurellosis)    | i. Bacterial<br>isolation &<br>identification<br><br>ii. PCR (for<br>identification) | a) Organs<br>b) Nasal/ tracheal<br>swabs<br>c) Culture<br>(Nutrient agar<br>slant/blood agar<br>slant/plate) | ✓ Small piece of organs<br>(1 inch thick)<br>✓ 1 unit of swab in<br>transport media e.g.,<br>Amies/ Cary Blair) | ✓ Organ: Fresh/<br>2 - 8°C to -20°C<br>✓ Swab: 2 - 8°C | 24 hours                        | 3 – 8 days                                  |
| <i>Reimerella<br/>anatipestifer</i> | Bacterial isolation<br>& identification  | a) Organ<br>b) Nasal/ tracheal<br>swab   | ✓ Small piece organ<br>(1 inch thick)<br>✓ 1 unit of swab in<br>transport media e.g.,<br>Amies/ Cary Blair)     | ✓ Organ: Fresh/<br>2 - 8°C to -20°C<br>✓ Swab: 2 - 8°C | 24 hours                        | 3 – 8 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR SWINE DISEASES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days)       |
|----------------------|---|--|--|--|---------------------------------|---|
| Atrophic Rhinitis    | i. Bacterial isolation & identification<br>ii. PCR (for identification) | a) Nasal sinus/ swabs<br>b) Organs<br>c) Culture (Nutrient agar slant)   | ✓ 1 unit of swab in transport media (Amies charcoal/ without charcoal)<br>✓ Small piece organs (1 inch thick)                            | ✓ Organ: Fresh/ 2 - 8°C to -20°C<br>✓ Swab: 2 - 8°C  | 24 hours                        | 3 – 8 days  |
| Porcine Brucellosis  | i. Bacterial isolation & identification<br>ii. PCR (for identification) | a) Aborted foetus/ lymph nodes (Iliac/ Ischiatic/ Supramammary)<br>b) Reproductive organs<br>c) Vaginal swab<br>d) Culture | ✓ 1 unit small piece of organ<br>✓ 1 infected lymph nodes<br>✓ 1 unit vaginal swab in transport media (Amies charcoal/ without charcoal) | ✓ Organ: Fresh/ 2 - 8°C to -20°C<br>✓ Swab: 2 - 8°C  | 24 hours                        | 2 weeks<br>3 – 5 days (PCR) for confirmation only |
| Swine Erysipelas     | Bacterial isolation & identification                                    | Affected organ   | Small piece organ (1 inch thick)   | Fresh/ 2 - 8°C to -20°C                              | 24 hours                        | 3 – 8 days  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR DISEASES OF MULTIPLE SPECIES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST           | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY                           | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|--------------------------------------|--|--|--|---|---|
| Leptospirosis        | Bacterial isolation                  | a) Kidney<br>b) Urinary bladder<br>c) Brain (do not freeze) – Please contact VRI to request for EMJH medium before sampling).<br>d) Urine (within 2 hours collection)<br>e) Water<br>f) Soil | <ul style="list-style-type: none"> <li>✓ Small piece organs (1 inch thick)</li> <li>✓ 1 - 5 ml water</li> <li>✓ 10 gm soil</li> </ul>                            | <ul style="list-style-type: none"> <li>✓ Urine samples within 2 hours upon sampling, 2-8°C</li> <li>✓ Organ samples shall inoculate into EMJH medium (refer to VRI).</li> <li>✓ Soil, Water: room temperature</li> </ul> | <p>24-48 hours (organ/ EMJH)</p> <p>1-2 hours (urine)</p> | 4 - 8 weeks                                 |
|                      | PCR<br>(For identification)          | Culture<br>(Fletcher's medium/ EMJH)   | -  | <ul style="list-style-type: none"> <li>✓ Sealed</li> <li>✓ Double layer packaging</li> </ul>   | 24 hours  | 3 – 8 days                                  |
| Melioidosis          | Bacterial isolation & identification | a) Organ<br>b) Soil<br>c) Swab   | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ 10 gm soil</li> <li>✓ 1 unit of swab in transport medium (Amies)</li> </ul> | Fresh/<br>2 - 8°C to -20°C   | 24 hours  | 3 – 8 days                                  |



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| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION  | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|---|---|---|---|---------------------------------|---|
| Pasteurellosis       | i. Bacterial isolation & identification<br>ii. PCR (for identification) | a) Organ<br>b) Culture<br>c) Nasal/ tracheal swab   | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ Nutrient agar slant/ blood agar slant/ plate</li> <li>✓ 1 unit of swab in transport medium (Amies)</li> </ul>  | Fresh/<br>2 - 8°C to -20°C  | 24 hours                        | 3 – 8 days                                  |
| Salmonellosis        | Bacterial identification  | a) Organs,<br>b) Faeces<br>c) Feed<br>d) Cloacal swab<br>e) Water<br>f) Environmental swab<br>g) Eggs | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ Small amount of faeces</li> <li>✓ 5 - 10 gm of feed</li> <li>✓ 1 unit swab in 10 mL transport media BPW (1 to 10 ratio. E.g., 5 swabs in 50 mL BPW)</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> <li>✓ Swab: Pooled swab 5 swab/ bottle, 2 - 8°C</li> <li>✓ Feed, water, egg, nutrient slant: Room temperature</li> </ul> | 24 hours                        | 3 – 8 days                                  |
|                      | Salmonella serotyping   | Nutrient agar slants/ plates  | <ul style="list-style-type: none"> <li>✓ 1 - 5 ml water</li> <li>✓ 10-unit eggs</li> </ul>  |   |                                 | 8 – 14 days                                 |
| Colibacillosis       | Bacterial identification  | a) Organs<br>b) Cloacal swab<br>c) Water<br>d) Feed<br>e) Environmental swab<br>f) Eggs               | <ul style="list-style-type: none"> <li>✓ 1 unit of swab in transport media BPW</li> <li>✓ 1 - 5 ml water</li> <li>✓ 5 - 10 gm of feed</li> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ 1-unit eggs</li> </ul>                                 | <ul style="list-style-type: none"> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> <li>✓ Swab: 2 - 8°C</li> <li>✓ Feed, water, eggs: Room temperature</li> </ul>  | 24 hours                        | 3 – 8 days                                  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN        | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT OF<br>SAMPLE TESTING   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION  | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days)   |
|-----------------------------|---|--|---|---|---------------------------------|---|
| Mycosis                     | Fungus<br>Identification  | a) Organ<br>b) Skin scrapping<br>c) Feed<br>d) Water<br>e) Soil  | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ 1 - 5 ml water</li> <li>✓ 5 - 10 gm of feed</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> <li>✓ Swab: 2 - 8°C</li> <li>✓ Feed, water: Room temperature</li> </ul>                                    | 24 hours                        | 14 days   |
|                             |   |  | <ul style="list-style-type: none"> <li>✓ Skin scrapping</li> <li>✓ Soil</li> </ul>  | Room temperature  |                                 |   |
| Anthrax                     | Bacterial isolation and identification  | a) Organ<br>b) Soil<br>c) Blood  | <ul style="list-style-type: none"> <li>✓ Small piece organ (1 inch thick)</li> <li>✓ 10 gm soil</li> <li>✓ 1-2 mL of blood</li> </ul>       | <ul style="list-style-type: none"> <li>✓ Organ: Fresh/ 2 - 8°C to -20°C</li> <li>✓ Blood: / 2 - 8°C</li> <li>✓ Soil: Room temperature</li> </ul>  | 24 hours                        | 3 – 8 days  |
| Tuberculosis except Poultry | <ul style="list-style-type: none"> <li>i. Bacterial isolation</li> <li>ii. PCR (for identification)</li> <li>iii. qPCR (real time)</li> </ul> | <ul style="list-style-type: none"> <li>a) Organs,</li> <li>b) Abscess from animal present with lesion</li> <li>d) Head thorax lymph nodes for animal without lesion</li> </ul> | <ul style="list-style-type: none"> <li>✓ 1 infected lymph nodes</li> <li>✓ Small piece organ (1 inch thick)</li> </ul>                      | <ul style="list-style-type: none"> <li>✓ Fresh/ 2 - 8°C to -20°C</li> <li>✓ Sterile container (highly recommended)</li> <li>✓ Sample shall be protected from direct sunlight</li> </ul> | 24 hours                        | <ul style="list-style-type: none"> <li>6 – 8 weeks</li> <li>3 – 5 days (PCR) for confirmation only</li> </ul> |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR VETERINARY PUBLIC HEALTH

| DIAGNOSTIC METHOD/ TEST                   | TYPE OF SAMPLE REQUIRED | MINIMUM REQUIREMENT OF SAMPLE TESTING | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|---|-------------------------|---------------------------------------|---|---------------------------|---------------------------------------|
| Total Plate Count (TPC)<br>Pour on Method | Water                   | ✓ 1 – 5 ml water                      | Room temperature                            | 24 hours                  | 3 days                                |
| Total Plate Count (TPC)<br>Petrifilm      | Raw milk                | ✓ 1 – 5 ml of raw milk                | Fresh/ 2 - 8°C                              | 1 – 2 hours               | 3 – 8 days                            |
| Coliform (MPN Method)                     | Water                   | ✓ 1 – 5 ml water                      | Room temperature                            | 24 hours                  | 3 days                                |
| Coliform (Petrifilm)                      | Raw milk                | ✓ 1 – 5 ml of raw milk                | Fresh/ 2 - 8°C                              | 1 – 2 hours               | 3 – 8 days                            |
| E.Coli Count (Petrifilm)                  | Raw milk                | ✓ 1 – 5 ml of raw milk                | Fresh/ 2 - 8°C                              | 1 – 2 hours               | 3 – 8 days                            |



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**VRI GUIDELINES FOR SAMPLE SUBMISSION**

**SPECIAL MICROORGANISM**

**Species: POULTRY**

| DISEASE/<br>PATHOGEN            | DIAGNOSTIC<br>METHOD/ TEST   | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>FOR SAMPLES   | OPTIMUM CONDITION<br>FOR SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|---------------------------------|--|---|---|---|---------------------------------|---|
| Mycoplasma                      | Isolation and<br>identification<br><br>PCR<br>(for<br>identification of<br><i>Mycoplasma sp</i> ,<br><i>M. gallisepticum</i> ,<br><i>M. synoviae</i> ) | a) Lung<br>b) Trachea<br>c) Head<br>d) Hock joint<br>e) Air sac swab<br>f) Nasal swab<br>g) Eggs<br>h) Vaccines<br>i) Culture | <ul style="list-style-type: none"> <li>✓ Lung: 3-5 gm</li> <li>✓ Trachea: 3-5 cm</li> <li>✓ Hock joint: Do not cut open.</li> <li>✓ Swab sample: each sample/ per bottle in transport media/PPLO broth</li> <li>✓ Egg: packed individually</li> <li>✓ Vaccine: 1.5ml</li> <li>✓ Agar or broth: sealed plate and bottle</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media/ PPLO broth: <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Eggs and vaccine samples: 2 - 8°C</li> <li>✓ Culture: room temperature</li> </ul> | 24 – 48 hours                   | 15 – 25 days<br><br>PCR<br>(3-5 days)       |
| <i>Mycoplasma gallisepticum</i> | Antibody<br>detection  | Serum   | Serum: >2ml   | <ul style="list-style-type: none"> <li>✓ Serum samples in 2 - 8°C</li> </ul>  | 24 hours                        | 3 – 7 days                                  |





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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN   | DIAGNOSTIC<br>METHOD/ TEST      | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>FOR SAMPLES   | OPTIMUM CONDITION<br>FOR SAMPLE<br>TRANSPORTATION  | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|---------------------------------|---|---|--|---------------------------------|---|
| Infectious coryza<br>( <i>Haemophilus<br/>paragallinarum</i> ) | Isolation and<br>identification | a) Head<br>b) Trachea<br>c) Air sac swab<br>d) Nasal swab<br>e) Culture | <ul style="list-style-type: none"> <li>✓ Head: pack individually</li> <li>✓ Trachea: 3-5 cm</li> <li>✓ Swab sample: each sample/ per bottle</li> <li>✓ Agar: sealed plate</li> </ul>  | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media:               <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Serum samples: 2 - 8°C</li> <li>✓ Culture: room temperature</li> </ul> | 24 – 48 hours                   | 5 – 15 days                                 |
|  | Serotyping for<br>Type A or C   | Serum   | Serum: >2ml   | <ul style="list-style-type: none"> <li>✓ Serum samples in 2 - 8°C</li> </ul>   | 24 hours                        | 5 – 15 days                                 |
| <i>Ornithobacterium<br/>rhinotracheale</i><br>(ORT)            | Isolation and<br>identification | a) Lung<br>b) Trachea<br>c) Air sac swab<br>d) Nasal swab<br>e) Culture | <ul style="list-style-type: none"> <li>✓ Trachea: 3-5 cm</li> <li>✓ Lung: 3-5 gram</li> <li>✓ Swab sample: each sample/ per bottle in transport media (Amies charcoal/ without charcoal)</li> <li>✓ Agar: sealed plate</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8 °C</li> <li>✓ Sample in transport media:               <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Culture: room temperature</li> </ul>                                  | 24 – 48 hours                   | 5 – 15 days                                 |
| <i>Salmonella</i>  | Antibody<br>detection           | Serum   | Serum: >2ml   | <ul style="list-style-type: none"> <li>✓ Serum samples in 2 - 8°C</li> </ul>   | 24 hours                        | 3 – 7 days                                  |



### VRI GUIDELINES FOR SAMPLE SUBMISSION

#### Species: BOVINE AND CAPRINE

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF<br>SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>FOR SAMPLES  | OPTIMUM CONDITION FOR<br>SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY   | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|---|--|--|---|---|---|
| Mycoplasma           | Isolation and<br>identification<br><br>PCR<br>(for<br>identification of<br><i>Mycoplasma sp</i> ) | a) Lung<br>b) Nasal swab<br>c) Eye swab<br>d) Trachea swab<br>e) Vaginal swab<br>f) Milk<br>g) Culture | <ul style="list-style-type: none"> <li>✓ Lung: 10-15 gram with lesion.</li> <li>✓ Swab sample: each sample/ per bottle in transport media/ PPLO broth</li> <li>✓ Milk: 20ml</li> <li>✓ Agar or broth: sealed plate and bottle</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organs and milk: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media:               <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Culture: room temperature</li> </ul> | Organ, swab samples, agar/ broth:<br>24 – 48 hours<br><br>Milk samples in room temperature:<br>1 – 2 hours<br><br>Milk samples in ice: 24 hours | 15 – 25 days<br><br>PCR<br>(3-5 days)       |

#### Species: OTHER ANIMALS & TISSUE CULTURE CELLS

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF<br>SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>FOR SAMPLES  | OPTIMUM CONDITION FOR<br>SAMPLE<br>TRANSPORTATION  | PERIOD OF<br>SAMPLE<br>VALIDITY   | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|---|--|--|--|---|---|
| Mycoplasma           | Isolation and<br>identification<br><br>PCR<br>(for<br>identification of<br><i>Mycoplasma sp</i> ) | a) Lung<br>b) Nasal swab<br>c) Eye swab<br>d) Trachea swab<br>e) Vaginal swab<br>f) Culture<br>g) Tissue culture cells | <ul style="list-style-type: none"> <li>✓ Lung: 10-15 gram with lesion.</li> <li>✓ Swab sample: each sample/ per bottle in transport media/PPLO broth</li> <li>✓ Milk: 20ml</li> <li>✓ Agar or broth: sealed plate and bottle</li> <li>✓ Tissue culture: 1 small flask</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organs and milk: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media/PPLO broth:               <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Culture: room temperature</li> <li>✓ Tissue culture: room temperature</li> </ul> | Organ, swab samples, agar/broth/tissue culture:<br>24 – 48 hours<br><br>Milk samples in room temperature:<br>1 – 2 hours<br><br>Milk samples in ice: 24 hours | 15 – 25 days<br><br>PCR<br>(3-5 days)       |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### Species: SWINE

| DISEASE/<br>PATHOGEN                  | DIAGNOSTIC<br>METHOD/ TEST  | TYPE OF<br>SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT<br>FOR SAMPLES  | OPTIMUM CONDITION FOR<br>SAMPLE<br>TRANSPORTATION   | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|---------------------------------------|---|---|--|---|---------------------------------|---|
| Mycoplasma                            | Isolation and<br>identification<br><br>PCR<br>(For<br>identification of<br><i>Mycoplasma sp</i> ) | a) Lung<br>b) Nasal swab<br>c) Joint<br>swab/puss<br>d) Trachea swab<br>e) Vaginal swab<br>f) Culture | <ul style="list-style-type: none"> <li>✓ Lung: 10-15 gram with lesion</li> <li>✓ Swab sample: each sample/ per bottle in transport media/PPLO broth</li> <li>✓ Agar or broth: sealed plate and bottle</li> </ul> | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media/PPLO broth: <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> <li>✓ Culture: room temperature</li> </ul> | 24 – 48 hours                   | 15 – 25 days<br><br>PCR<br>(3-5 days)       |
| <i>Actinobacillus pleuropneumonia</i> | Isolation and<br>identification   | a) Lung<br>b) Nasal swab<br>c) Trachea swab   | <ul style="list-style-type: none"> <li>✓ Lung: 10-15 gram with lesion.</li> <li>✓ Swab sample: each sample/ per bottle in transport media (Amies charcoal/ without charcoal)</li> </ul>                          | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media: <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> </ul>   | 24 – 48 hours                   | 5 – 15 days                                 |
| <i>Haemophilus parasuis</i>           | Isolation and<br>identification   | a) Lung<br>b) Nasal swab<br>c) Trachea swab   | <ul style="list-style-type: none"> <li>✓ Lung: 10-15 gram with lesion.</li> <li>✓ Swab sample: each sample/ per bottle in transport media (Amies charcoal/ without charcoal)</li> </ul>                          | <ul style="list-style-type: none"> <li>✓ Organs: Fresh/ 2 - 8°C</li> <li>✓ Sample in transport media: <ul style="list-style-type: none"> <li>• If transportation less than 24 hours: room temperature</li> <li>• If transportation more than 24 hours: 2 - 8°C</li> </ul> </li> </ul>   | 24-48 hours                     | 5 – 15 days                                 |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### SEROLOGY

#### A. LABORATORY SEROLOGICAL BACTERIAL DISEASES TEST FOR MULTIPLE SPECIES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST                 | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|----------------------|--|-------------------------------|---|--|---------------------------------|---|
| Brucellosis          | Rose Bengal<br>Plate Test<br>(RBPT)        | Serum                         | 30µl  | 4 - 8°C  | 4 days                          | 2 - 3 days<br>(For all types of work)   |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 |   |
|                      | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |  | Blood in plain<br>tube        | > 3 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
| Salmonellosis        | Serum<br>Agglutination Test<br>(SAT)       | Serum                         | 200µl   | 4 - 8°C  | 4 days                          | 7 – 10 days<br>(For all types of work)  |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 |   |
| Leptospirosis        | Microscopic<br>Agglutination Test<br>(MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring)     |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research &<br>others)                             |



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| DISEASE/<br>PATHOGEN     | DIAGNOSTIC<br>METHOD/ TEST                    | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|--------------------------|---|-------------------------------|---|--|---------------------------------|---|
| Johne's                  | Complement<br>Fixation Test<br>(CFT)          | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                          |   | Blood in plain<br>tube        | > 3 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
| Melioidosis              | Complement<br>Fixation Test<br>(CFT)          | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                          |   | Blood in plain<br>tube        | > 3 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
| Caseous<br>lymphadenitis | Agar Gel<br>Immunodiffusion<br>Test<br>(AGID) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring)     |
|                          |   | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### B. SPECIES: BOVINE & WILDLIFE

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST           | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|----------------------|--------------------------------------|-------------------------------|---|--|---------------------------------|---|
| Brucellosis          | Rose Bengal<br>Plate Test<br>(RBPT)  | Serum                         | 30µl  | 4 - 8°C  | 4 days                          | 2 - 3 days<br>(For all types of work)   |
|                      |                                      | Blood in plain<br>tube        | > 1 ml  |  |                                 |   |
|                      | Complement<br>Fixation Test<br>(CFT) | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |                                      | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |
| Johne's              | Complement<br>Fixation Test<br>(CFT) | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |                                      | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |
| Meloidosis           | Complement<br>Fixation Test<br>(CFT) | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |                                      | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |



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| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST                 | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)                                    |
|----------------------|--|-------------------------------|---|--|---------------------------------|---|
| Salmonellosis        | Serum<br>Agglutination Test<br>(SAT)       | Serum                         | 200µl   | 4 - 8°C  | 4 days                          | 7 – 10 days<br>(For all types of work)                                      |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 |   |
| Leptospirosis        | Microscopic<br>Agglutination Test<br>(MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research & others)                            |

### C. SPECIES: CAPRINE, OVINE & CERVIDS

| DISEASE/<br>PATHOGEN     | DIAGNOSTIC<br>METHOD/ TEST                 | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|--------------------------|--|-------------------------------|---|--|---------------------------------|---|
| Brucellosis              | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                          |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |
| Caseous<br>lymphadenitis | Agar Gel<br>Immunodiffusion<br>Test (AGID) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring)     |
|                          |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |



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| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST                 | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|----------------------|--|-------------------------------|---|--|---------------------------------|---|
| Johne's              | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |
| Melioidosis          | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research & others)                           |
| Salmonellosis        | Serum<br>Agglutination Test<br>(SAT)       | Serum                         | 200µl   | 4 - 8°C  | 4 days                          | 7 – 10 days<br>(For all types of work)  |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 |   |
| Leptospirosis        | Microscopic<br>Agglutination Test<br>(MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring)     |
|                      |  | Blood in plain<br>tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research & others)                                |





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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### D. OTHER SPECIES

| SPECIES | DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/<br>TEST              | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)  |
|---------|----------------------|--|-------------------------------|---|--|---------------------------------|---|
| Swine   | Brucellosis          | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
|         | Johne's              | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
|         | Meliodosis           | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                        |
|         | Leptospirosis        | Microscopic<br>Agglutination<br>Test (MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring)     |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research &<br>others)                             |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| SPECIES | DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/<br>TEST              | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME (TAT)<br>(Working Days)                                    |
|---------|----------------------|--|-------------------------------|---|--|---------------------------------|---|
| Feline  | Leptospirosis        | Microscopic<br>Agglutination<br>Test (MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research &<br>others)                         |
| Canine  | Leptospirosis        | Microscopic<br>Agglutination<br>Test (MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For import, export, diagnostic,<br>animal movement & monitoring) |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research &<br>others)                         |
| Rodent  | Leptospirosis        | Microscopic<br>Agglutination<br>Test (MAT) | Serum                         | 100µl   | 4 - 8°C  | 4 days                          | 7 days<br>(For diagnostic)  |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 days<br>(For surveillance, research &<br>others)                         |
|         | Meloidosis           | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For diagnostic)  |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                    |
| Rabbit  | Meloidosis           | Complement<br>Fixation Test<br>(CFT)       | Serum                         | 150µl   | 4 - 8°C  | 4 days                          | 3 - 5 days<br>(For diagnostic)  |
|         |                      |  | Blood in<br>plain tube        | > 1 ml  |  |                                 | 10 - 12 days<br>(For surveillance, research &<br>others)                    |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### IMMUNOASSAY

| DISEASE/<br>PATHOGEN                | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF<br>SAMPLE<br>REQUIRED                                     | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND TIME<br>(TAT)<br>(Working Days)  | SPECIES  |
|-------------------------------------|----------------------------|---|---|--|---------------------------------|--|--|
| Nipah                               | In-house ELISA             | Serum<br>(the blood clot<br>is removed)                           | >100 µl   | 3 – 8 °C   | 4 days                          | <ul style="list-style-type: none"> <li>✓ 5 days<br/>(for import, export,<br/>diagnostic, animal<br/>movement and<br/>monitoring)</li> <li>✓ 14 days<br/>(for research,<br/>surveillance)</li> </ul>                          | <ul style="list-style-type: none"> <li>✓ Cat</li> <li>✓ Dog</li> <li>✓ Pig</li> <li>✓ Horse</li> <li>✓ Rabbit</li> </ul> |
|                                     |                            | Blood in plain<br>tube (without<br>any additive<br>like gel etc.) | >1 ml   |  |                                 |  |  |
| Haemorrhagic<br>Septicaemia<br>(HS) | In-house ELISA             | Serum<br>(the blood clot<br>is removed)                           | >100 µl   | 3 – 8 °C   | 4 days                          | <ul style="list-style-type: none"> <li>✓ 5 days<br/>(for import, export,<br/>diagnostic, animal<br/>movement and<br/>monitoring)</li> <li>✓ 14 days<br/>(for research,<br/>surveillance and<br/>pre/post vaccine)</li> </ul> | <ul style="list-style-type: none"> <li>✓ Cattle</li> <li>✓ Buffalo</li> <li>✓ Rabbit</li> </ul>                          |
|                                     |                            | Blood in plain<br>tube (without<br>any additive<br>like gel etc.) | >1 ml   |  |                                 |  |  |



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| DISEASE/<br>PATHOGEN   | DIAGNOSTIC<br>METHOD/ TEST                         | TYPE OF<br>SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE<br>FOR TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION  | PERIOD OF<br>SAMPLE<br>VALIDITY                                      | TURN AROUND TIME<br>(TAT)<br>(Working Days)   | SPECIES                                  |
|--|--|-------------------------------|---|---|--|---|--|
| Bovine<br>Tuberculosis<br>(TB)<br><br>(Samples<br>from Perak<br>only)                  | BOVIGAM®<br>ELISA test kit                         | Whole blood in<br>heparin     | >5 ml   | Room temperature<br>22- 25 °C<br>(Avoid keep in ice,<br>extreme temperature<br>and exposed to<br>direct sunlight) | < 7 hours of<br>collection<br>(sample culture<br>processing<br>step) | <ul style="list-style-type: none"> <li>✓ 5 days<br/>(For import, export,<br/>diagnostic, animal<br/>movement and<br/>monitoring)</li> <li>✓ 14 days<br/>(For research,<br/>surveillance)</li> </ul> | Cattle<br><br>According to<br>kit manual |
| Bovine<br>Tuberculosis<br>(TB)<br><br>(Formal<br>application to<br>Director of<br>VRI) | Tuberculin skin<br>test                            | NA                            | NA  | NA  | NA   | <ul style="list-style-type: none"> <li>✓ Caudal fold test –<br/>5 days</li> <li>✓ cervical comparative<br/>test - 5 days</li> </ul>   | Cattle                                   |
| Other<br>Commercial<br>Kits  | ELISA/ latex<br>agglutination/<br>lateral flow etc | According to<br>kit manual    | According to kit<br>manual                      | According to kit<br>manual  | According to kit<br>manual   | <ul style="list-style-type: none"> <li>✓ 5 days<br/>(For import, export,<br/>diagnostic, animal<br/>movement and<br/>monitoring)</li> <li>✓ 14 days<br/>(For research,<br/>surveillance)</li> </ul> | According to<br>kit manual               |



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**VRI GUIDELINES FOR SAMPLE SUBMISSION**

**MAMMALIAN VIROLOGY**

**LABORATORY TESTS FOR EQUINE DISEASES**

| DISEASE/<br>PATHOGEN                             | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                                     | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|--|---|--|---------------------------------|---|
| Equine Influenza<br>Virus Type A<br>(EIV Type A) | Viral isolation            | a) Nasopharyngeal<br>swab<br>b) Nasal<br>c) Tracheal<br>washes | 5 swabs in 5 ml<br>VTM PBS with<br>glycerol.    | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|  |                            | Pooled organ<br>(Liver, lung, spleen,<br>kidney)               | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|  | RT-PCR                     | a) Nasopharyngeal<br>swab<br>b) Nasal<br>c) Tracheal<br>washes | 5 swabs in 5 ml<br>VTM PBS with<br>glycerol.    | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Pooled organ<br>(Liver, lung, spleen,<br>kidney)               | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN   | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                       | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|--|---|--|---------------------------------|---|
| Equine Herpes<br>Virus Type 1 &<br>Type 4<br>(EHV-1 & EHV-4) | Viral isolation            | Nasopharyngeal<br>swab                           | 5 swabs in 5 ml<br>VTM MEM@PBS.                 | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|  |                            | Pooled organ<br>(Liver, spleen, lung,<br>thymus) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|  |                            | Blood in EDTA tube                               | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|  | RT-PCR                     | Nasopharyngeal<br>swab                           | 5 swabs in 5 ml<br>VTM MEM@PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Pooled organ<br>(Liver, spleen, lung,<br>thymus) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Blood in EDTA tube                               | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  | SNT                        | Serum  | 2 ml  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 7 – 10 days                                 |
|  |                            | Blood in plain tube                              | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 7 – 10 days                                 |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN                 | DIAGNOSTIC<br>METHOD/ TEST       | TYPE OF SAMPLE<br>REQUIRED                       | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--------------------------------------|----------------------------------|--|---|--|---------------------------------|---|
| African Horse<br>Sickness<br>(AHS)   | RT-PCR                           | Pooled organ<br>(spleen, lung and<br>lymph node) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|                                      |                                  | Blood in EDTA tube                               | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                                      | Real-Time<br>RT-PCR<br>(qRT-PCR) | Pooled organ<br>(spleen, lung and<br>lymph node) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 3 – 5 days                                  |
|                                      |                                  | Blood in EDTA tube                               | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
| Western Equine<br>Encephalitis (WEE) | SNT                              | Serum  | 2 ml  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 7 – 10 days                                 |
|                                      |                                  | Blood in plain tube                              | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 7 – 10 days                                 |
| Equine Infectious<br>Anemia<br>(EIA) | AGID                             | Serum  | 2 ml  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 2 – 3 days                                  |
|                                      |                                  | Blood in plain tube                              | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 2 – 3 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR BOVINE DISEASES

| DISEASE/<br>PATHOGEN                                   | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|-----------------------------|---|--|---------------------------------|---|
| Infectious Bovine<br>Rhinotracheitis<br>Virus<br>(IBR) | Viral isolation            | Pooled organs,<br>semen     | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|  |                            | Nasal swab/ genital<br>swab | 5 swabs in 5 ml<br>VTM MEM@PBS.                 | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|  |                            | Blood in EDTA tube          | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|  | PCR                        | Pooled organs,<br>semen     | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Nasal swab/ genital<br>swab | 5 swabs in 5 ml<br>VTM MEM@PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Blood in EDTA tube          | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  | SNT                        | Serum                       | 2 ml  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 7 – 10 days                                 |
|  |                            | Blood in plain tube         | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 7 – 10 days                                 |





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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN                  | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                             | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|---------------------------------------|----------------------------|--|---|--|---------------------------------|---|
| Bovine Viral<br>Diarrhea<br>(BVD)     | Viral isolation            | a) Semen<br>b) Fetus<br>c) Pooled organs               | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 21 – 28 days                                |
|                                       |                            | Blood in EDTA tube                                     | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|                                       | RT-PCR                     | a) Semen<br>b) Fetus<br>c) Pooled organs               | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|                                       | SNT                        | Serum  | 2 ml  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 7 – 10 days                                 |
|                                       |                            | Blood in plain tube                                    | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 7 – 10 days                                 |
| Malignant Catarrhal<br>Fever<br>(MCF) | PCR                        | Brain & other<br>organs                                | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
| Lumpy Skin<br>Diseases<br>(LSD)       | Viral isolation            | Scab   | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 21 – 28 days                                |
|                                       |                            | Nasal swab/ saliva<br>swab                             | 5 swabs in 5 ml<br>VTM PBS with<br>glycerol.    | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|                                       |                            | Pooled organs<br>(Spleen, lung and<br>lymph node etc.) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 21 – 28 days                                |
|                                       |                            | Blood in EDTA tube                                     | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                             | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|----------------------------|--|---|--|---------------------------------|---|
|                      | PCR                        | Scab   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|                      |                            | Nasal swab/ saliva<br>swab                             | 5 swabs in 5 ml<br>VTM PBS with<br>glycerol.    | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                      |                            | Pooled organs<br>(Spleen, lung and<br>lymph node etc.) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|                      |                            | Blood in EDTA tube                                     | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                      | Real-Time<br>PCR<br>(qPCR) | Scab   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 3 – 5 days                                  |
|                      |                            | Nasal swab/ saliva<br>swab                             | 5 swabs in 5 ml<br>VTM PBS with<br>glycerol.    | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
|                      |                            | Pooled organs<br>(Spleen, lung and<br>lymph node etc.) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 3 – 5 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR SWINE DISEASES

| DISEASE/<br>PATHOGEN                    | DIAGNOSTIC<br>METHOD/ TEST       | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|---|----------------------------------|---|---|--|---------------------------------|---|
| Aujeszky's Disease<br>Virus<br>(PRV)    | Viral isolation                  | a) Brain<br>b) Tonsil<br>c) Pooled organ<br>(Liver, lung,<br>spleen, kidney)    | 200 gm  | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
|   |                                  |   |   | -20 °C   | >24 hrs                         |   |
|   | PCR                              | a) Brain<br>b) Tonsil<br>c) Pooled organ<br>(Liver, lung,<br>spleen,<br>kidney) | 200 gm  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|   |                                  |   |   | -20 °C   | >24 hrs                         |   |
| SNT                                     | Serum                            | 2 ml  | 2 – 8 °C  | 48 hrs   | 7 – 10 days                     |   |
|   | Blood in plain tube              | 4 – 5 ml  | 2 – 8 °C  | 48 hrs   | 7 – 10 days                     |   |
| Classical Swine<br>Fever Virus<br>(CSF) | Viral isolation                  | Tonsil and lymph<br>nodes   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|   | RT-PCR                           | a) Tonsil,<br>b) Pooled organ<br>(Spleen, kidney,<br>ileum or lymph<br>nodes)   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|   | Real-Time<br>RT-PCR<br>(qRT-PCR) | a) Tonsil,<br>b) Pooled organ<br>(Spleen, kidney,<br>ileum or lymph<br>nodes)   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 3 – 5 days                                  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN   | DIAGNOSTIC<br>METHOD/ TEST            | TYPE OF SAMPLE<br>REQUIRED                       | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|---------------------------------------|--|---|--|---------------------------------|---|
| Porcine<br>Reproductive and<br>Respiratory<br>Syndrome<br>(PRRS) | Viral isolation                       | Lung and lymph<br>nodes                          | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|  |                                       | Pooled organ<br>(Liver, lung, spleen,<br>kidney) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  | Blood in EDTA tube                    |  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  | Real-Time<br>RT-PCR<br>(qRT-PCR)      | Pooled organ<br>(Liver, lung, spleen,<br>kidney) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 3 – 5 days                                  |
|  |                                       | Blood in EDTA tube                               | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
|  | Swine Influenza<br>Virus A<br>(SIV A) | Viral isolation                                  | Pooled organ<br>(Lung, spleen,<br>kidney)       | 200 gm   | 2 – 8 °C<br>-20 °C              | 48 hrs<br>>24 hrs                           |
| Nasal swab   |                                       |  | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 21 – 28 days                                |
| RT-PCR   |                                       | Pooled organ<br>(Lung, spleen,<br>kidney)        | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                                       | Nasal swab                                       | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Real-Time<br>RT-PCR<br>(qRT-PCR)                                 |                                       | Pooled organ<br>(Lung, spleen,<br>kidney)        | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 3 – 5 days                                  |
|  |                                       | Nasal swab                                       | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN   | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|--|---|--|---------------------------------|---|
| Postweaning<br>Multisystemic<br>Wasting Syndrome<br>(PCV II) | PCR                        | Pooled organ<br>(Liver, lung, spleen,<br>kidney)   | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
| African Swine<br>Fever<br>(ASF)                              | PCR                        | a) Bone marrow<br>b) Pooled organ<br>(Spleen, lymph<br>nodes, lung,<br>tonsil and<br>kidney) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | Blood in EDTA tube   | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  | Real-Time PCR<br>(qPCR)    | a) Bone marrow<br>b) Pooled organ<br>(Spleen, lymph<br>nodes, lung,<br>tonsil and<br>kidney) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 3 – 5 days                                  |
|  |                            | Blood in EDTA tube   | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
| Nipah Virus  | Nested RT-PCR              | Brain  | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | Blood in EDTA/<br>Heparin  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR OVINE/ CAPRINE DISEASES

| DISEASE/<br>PATHOGEN                       | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                       | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|--|---|--|---------------------------------|---|
| Caprine Arthritis<br>Encephalitis<br>(CAE) | AGID                       | Serum  | 2 ml  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 2 – 3 days                                  |
|  |                            | Blood in plain tube                              | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 2 – 3 days                                  |
| Bluetongue Virus<br>(BTV)                  | RT-PCR                     | Pooled organ<br>(Liver, lung, spleen,<br>kidney) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Blood in EDTA/<br>Heparin                        | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  | AGID                       | Serum  | 2 ml  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 2 – 3 days                                  |
|  |                            | Blood in plain tube                              | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 2 – 3 days                                  |
| Peste Des Petits<br>Ruminants<br>(PPR)     | RT-PCR                     | Pooled organ<br>(Liver, lung, spleen,<br>kidney) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Blood in EDTA                                    | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR CANINE DISEASES

| DISEASE/<br>PATHOGEN                   | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|--|---|--|---------------------------------|---|
| Canine Parvovirus<br>(CPV)             | PCR                        | Pooled organ<br>(Gastrointestinal tissue,<br>lymph node, heart,<br>brain, liver, lung, kidney) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | Rectal swab  | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Feces  | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | Blood in EDTA  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Canine<br>Parainfluenza<br>(CPIV)      | RT-PCR                     | Pooled organ<br>(Liver, lung, spleen,<br>kidney)   | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | Nasal swab,<br>nasopharyngeal swab   | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Blood in EDTA  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Canine Adenovirus<br>Type 2<br>(CAV-2) | PCR                        | Pooled organ<br>(Liver, lung, spleen,<br>kidney)   | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |
|  |                            | a) Nasal swab<br>b) Nasopharyngeal<br>swab   | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Blood in EDTA  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR FELINE DISEASES

| DISEASE/<br>PATHOGEN                               | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|---|---|--|---------------------------------|---|
| Feline Coronavirus<br>(FeCoV)                      | Viral isolation            | Pooled organ<br>(Liver, lung, spleen,<br>kidney)  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|  | Nested RT-PCR              | Pooled organ<br>(Liver, lung, spleen,<br>kidney)  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
| Feline Parvovirus/<br>Panleukopenia<br>(FPV/ FPLV) | PCR                        | Pooled organ<br>(gastrointestinal tissue,<br>lymph node, heart,<br>brain, liver, lung, kidney)  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Rectal swab   | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|  |                            | Feces   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|  |                            | Blood in EDTA   | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Feline Calicivirus<br>(FCV)                        | RT-PCR                     | Pooled organ<br>(gastrointestinal tissue,<br>lymph nodes, heart,<br>brain, liver, lung, kidney) | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |





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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### LABORATORY TESTS FOR DISEASES OF MULTIPLE SPECIES

| DISEASE/<br>PATHOGEN              | DIAGNOSTIC<br>METHOD/ TEST       | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-----------------------------------|----------------------------------|--|---|--|---------------------------------|---|
| SARS-CoV-2<br>(COVID-19)          | Real-Time<br>RT-PCR<br>(qRT-PCR) | Nasal swab   | 5 swabs in 5 ml<br>VTM MEM/PBS.                 | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                                   |                                  | Frozen meat product<br>(monitoring/surveillance<br>from food source) | 200 gm  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Japanese<br>Encephalitis<br>(JEV) | Viral isolation                  | Brain, Cerebrospinal fluid<br>(CSF)                                  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 21 – 28 days                                |
|                                   | RT-PCR                           | Brain, Cerebrospinal fluid<br>(CSF)                                  | 200 gm  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                                   |                                  | Blood in EDTA  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| Rabies                            | Nested RT-PCR                    | a) Brain<br>b) Salivary gland  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|                                   |                                  | Cerebrospinal fluid (CSF)  | 2 ml  | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
|                                   | Real-Time<br>RT-PCR<br>(qRT-PCR) | a) Brain<br>b) Salivary gland  | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |
|                                   |                                  | Cerebrospinal fluid (CSF)  | 2 ml  | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
| Contagious<br>Ecthyma<br>(CE)     | PCR                              | Scab   | 200 gm  | 2 – 8 °C<br>-20 °C                                   | 48 hrs<br>>24 hrs               | 5 – 7 days                                  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN               | DIAGNOSTIC<br>METHOD/ TEST       | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|------------------------------------|----------------------------------|--|---|--|---------------------------------|---|
| Canine Distemper<br>Virus<br>(CDV) | RT-PCR                           | Nasal swab   | Swabs in 5 ml<br>VTM MEM/PBS                    | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
|                                    |                                  | Blood in EDTA tube   | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
| West Nile Virus<br>(WNV)           | Real-Time<br>RT-PCR<br>(qRT-PCR) | Nasal swab   | Swabs in 5 ml<br>VTM MEM/PBS                    | 2 – 8 °C   | 48 hrs                          | 3 – 5 days                                  |
| Monkeypox virus<br>(MPXV)          | Real Time<br>RT-PCR<br>(qRT-PCR) | Blood in EDTA  | 4 – 5 ml  | 2 – 8 °C   | 48 hrs                          | 5 – 7 days                                  |
|                                    |                                  | Pooled organ<br>(gastrointestinal tissue,<br>lymph node, heart, brain,<br>liver, lung, kidney) | 200 gm  | 2 – 8 °C<br><br>-20 °C                               | 48 hrs<br><br>>24 hrs           | 5 – 7 days                                  |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### **LABORATORY TESTS FOR MULTITEST DISEASES BY REALTIME RT-PCR/ PCR (qRT-PCR/ PCR)/ CONVENTIONAL RT-PCR/ PCR**

| DISEASE/<br>PATHOGEN                         | DIAGNOSTIC<br>METHOD/ TEST   | TYPE OF SAMPLE<br>REQUIRED | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days)  |
|--|--|----------------------------|---|--|---------------------------------|--|
| Multi Diseases<br>(Equine/ Bovine/<br>Swine) | Real-Time RT-<br>PCR/ PCR (qRT-<br>PCR/PCR)/<br>conventional<br>RT-PCR/ PCR<br>alone/<br>combination of<br>test method | Refer as above             | Refer as above                                  | Refer as above                                       | Refer as above                  | (2 diseases)<br>5 – 8 days<br><br>(3 diseases)<br>5 – 9 days<br><br>(>4 diseases)<br>5 – 10 days |

#### NOTES:

Types of viral transport media (VTM) that are available in the VRI laboratory:

- VTM MEM
- VTM PBS
- VTM PBS with glycerol

If no VTM please use TPB (Tryptose Phosphate Broth) or distilled water. For Virus isolation (VI) please use Rayon, Dacron or cotton swabs only



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### AVIAN VIROLOGY

Species: **CHICKEN**

| DISEASE/<br>PATHOGEN          | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                                | MINIMUM<br>SAMPLE<br>REQUIRED | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-------------------------------|----------------------------|---|-------------------------------|--|---------------------------------|---|
| Egg Drop<br>Syndrome<br>(EDS) | PCR                        | Pooled organ  | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                               | HI                         | Serum   | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Fowl Adenovirus<br>(FADV)     | Egg inoculation<br>(i/y)   | a) Pooled organ<br>b) Intestine<br>c) Gizzard<br>d) Liver | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                               | PCR                        | a) Pooled organ<br>b) Intestine<br>c) Gizzard<br>d) Liver | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                               | AGID                       | Serum   | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN               | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>SAMPLE<br>REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|------------------------------------|----------------------------|---|--|--|---------------------------------|---|
| Avian<br>Encephalomyelitis<br>(AE) | Egg inoculation<br>(i/y)   | Brain   | >100 gm  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                                    | PCR                        | Brain   | >100 gm  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                    | AGID                       | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
| Avian Influenza<br>(AI)            | HI                         | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                    | Egg inoculation<br>(i/a)   | a) Pooled organs<br>b) Tracheal and cloacal swab<br>c) Allantoic fluid<br>d) Environmental swab<br>e) Bird nest<br>f) Egg<br>g) Faeces<br>h) Meat product | ✓ >100 gm<br>✓ 5 – 10 swabs in 5 – 10 ml VTM<br>✓ >1 ml<br>✓ 5 – 10 swabs in 5 – 10 ml VTM<br>✓ >100 gm<br>✓ Min 1 whole egg<br>✓ >100 gm<br>✓ >100 gm | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                                    | RT-PCR                     |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                    | Real time RT-PCR           |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 1 days                                      |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN                 | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED   | MINIMUM<br>SAMPLE<br>REQUIRED | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--------------------------------------|----------------------------|------------------------------|-------------------------------|--|---------------------------------|---|
| Chicken Anaemia<br>Virus<br>(CAV)    | PCR                        | Bone marrow                  | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Fowl Pox<br>(FP)                     | Egg inoculation<br>(CAM)   | Scabs                        | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                                      | PCR                        | Scabs                        | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                      | AGID                       | Serum                        | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
| Infectious Bursa<br>Disease<br>(IBD) | Egg inoculation<br>(CAM)   | a) Bursa<br>b) Pooled organs | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                                      | AGID                       | Serum                        | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
|                                      | RT-PCR                     | a) Bursa<br>b) Pooled organs | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |



**VRI GUIDELINES FOR SAMPLE SUBMISSION**

| DISEASE/<br>PATHOGEN                     | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>SAMPLE<br>REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|--|----------------------------|---|--|--|---------------------------------|---|
| Infectious<br>Bronchitis<br>(IB)         | AGID                       | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
|  | Egg inoculation<br>(i/a)   | a) Trachea<br>b) Lung<br>c) Kidney<br>d) Oviduct<br>e) Pooled organ<br>f) Tracheal swab<br>g) Allantoic fluid | ✓ >100 gm<br>✓ >100 gm<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >1 ml      | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|  | RT-PCR                     | a) Trachea, lung,<br>kidney, oviduct<br>b) Pooled organ<br>c) Tracheal swab<br>d) Allantoic fluid             | ✓ >100 gm<br>✓ >100 gm<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >1 ml      | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Infectious<br>Laryngotracheitis<br>(ILT) | AGID                       | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
|  | Egg inoculation<br>(CAM)   | a) Trachea<br>b) Lung<br>c) Tracheal swab<br>d) Pooled organ  | ✓ >100 gm<br>✓ >100 gm<br>✓ 5 – 10 swabs<br>in 5 – 10 ml<br>VTM<br>✓ >100 gm | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|  | PCR                        | a) Trachea<br>b) Lung<br>c) Tracheal swab<br>d) Pooled organ  | ✓ >100 gm<br>✓ >100 gm<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >100 gm    | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN  | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                             | MINIMUM<br>SAMPLE<br>REQUIRED                   | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|---|----------------------------|--|---|--|---------------------------------|---|
| Marek's disease   | PCR                        | a) Sciatic nerve<br>b) Pooled organ<br>c) Feather pulp | >100 gm   | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Reo virus   | AGID                       | Serum  | >100 µl   | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 5 days                                      |
|   | Egg inoculation<br>(i/y)   | a) Tendon<br>b) Pooled organ                           | >100 gm   | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|   | RT-PCR                     | a) Tendon<br>b) Pooled organ                           | >100 gm   | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Swollen Head<br>Syndrome<br>(SHS)/<br>Turkey<br>Rhinotracheitis | RT-PCR                     | a) Head<br>b) Turbinate                                | >100 gm   | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Chicken Astrovirus  | PCR                        | a) Trachea swab<br>b) Pooled organ                     | ✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >100 gm | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |





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| DISEASE/<br>PATHOGEN          | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>SAMPLE<br>REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-------------------------------|----------------------------|---|--|--|---------------------------------|---|
| Avian Leukosis<br>Virus (ALV) | PCR                        | a) Liver<br>b) Pooled Organ<br>c) Allantoic Fluid   | ✓ >100 gm<br>✓ >100 gm<br>✓ >1 ml  | 2 – 8 °C<br><br>– 20 °C                              | 48 hrs<br><br>>24 hrs           | 3 days                                      |
| Newcastle Disease<br>(ND)     | HI                         | Serum   | >100 µl  | 2 – 8 °C<br><br>– 20 °C                              | 48 hrs<br><br>>24 hrs           | 3 days                                      |
|                               | Egg inoculation<br>(i/a)   | a) Pooled organs<br>b) Tracheal and<br>cloacal swab<br>c) Allantoic fluid<br>d) Environmental<br>swab<br>e) Bird nest<br>f) Egg<br>g) Faeces<br>h) Meat product | ✓ >100 gm<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >1 ml<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >100 gm<br>✓ Min 1 whole egg<br>✓ >100 gm<br>✓ >100 gm | 2 – 8 °C<br><br>– 20 °C                              | 48 hrs<br><br>>24 hrs           | 21 days                                     |
|                               | RT-PCR                     |   |  | 2 – 8 °C<br><br>– 20 °C                              | 48 hrs<br><br>>24 hrs           | 3 days                                      |
|                               | Real time RT-PCR           |   |  | 2 – 8 °C<br><br>– 20 °C                              | 48 hrs<br><br>>24 hrs           | 1 days                                      |
| Orthobunya Virus              | RT-PCR                     |   |  | a) Kidney<br>b) Pooled organ                         | >100 gm                         | – 20 °C<br><br>2 – 8 °C                     |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

Species: DUCK

| DISEASE/<br>PATHOGEN    | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>SAMPLE<br>REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-------------------------|----------------------------|---|--|--|---------------------------------|---|
| Avian Influenza<br>(AI) | HI                         | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                         | Egg inoculation<br>(i/a)   | a) Pooled organs<br>b) Tracheal and cloacal swab<br>c) Allantoic fluid<br>d) Environmental swab<br>e) Bird nest<br>f) Egg<br>g) Faeces<br>h) Meat product | ✓ >100 gm<br>✓ 5 – 10 swabs in 5 – 10 ml VTM<br>✓ >1 ml<br>✓ 5 – 10 swabs in 5 – 10 ml VTM<br>✓ >100 gm<br>✓ Min 1 whole egg<br>✓ >100 gm<br>✓ >100 gm | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                         | RT-PCR                     |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                         | Real time RT-PCR           |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 1 days                                      |



### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN          | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED  | MINIMUM<br>SAMPLE<br>REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|-------------------------------|----------------------------|---|--|--|---------------------------------|---|
| Newcastle Disease<br>(ND)     | HI                         | Serum   | >100 µl  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                               | Egg inoculation<br>(i/a)   | a) Pooled organs<br>b) Tracheal and<br>cloacal swab<br>c) Allantoic fluid<br>d) Environmental<br>swab<br>e) Bird nest<br>f) Egg<br>g) Faeces<br>h) Meat product | ✓ >100 gm<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >1 ml<br>✓ 5 – 10 swabs in<br>5 – 10 ml VTM<br>✓ >100 gm<br>✓ Min 1 whole egg<br>✓ >100 gm<br>✓ >100 gm | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                               | RT-PCR                     |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                               | Real time RT-PCR           |   |  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 1 days                                      |
| Duck Virus Enteritis<br>(DVE) | IFAT                       |   |  | Serum  | >100 µl                         | 2 – 8 °C<br>– 20 °C                         |
|                               | PCR                        | a) Intestines<br>b) Pooled organ  | ✓ 3 cm<br>✓ >100 gm  | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/<br>PATHOGEN               | DIAGNOSTIC<br>METHOD/ TEST | TYPE OF SAMPLE<br>REQUIRED                  | MINIMUM<br>SAMPLE<br>REQUIRED | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|------------------------------------|----------------------------|---|-------------------------------|--|---------------------------------|---|
| Duck Virus<br>Hepatitis<br>(DVH)   | Egg inoculation<br>(i/a)   | a) Liver<br>b) Pooled organ                 | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 21 days                                     |
|                                    | IFAT                       | Serum                                       | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                    | PCR                        | a) Liver<br>b) Pooled organ                 | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Derzy's or Duck<br>Parvovirus (DP) | PCR                        | a) Liver<br>b) Intestine<br>c) Pooled organ | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Egg Drop<br>Syndrome<br>(EDS)      | PCR                        | Pooled organ                                | >100 gm                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
|                                    | HI                         | Serum                                       | >100 µl                       | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |
| Duck Flavivirus<br>(DFV)           | PCR                        | a) Pooled organ<br>b) Brain<br>c) Ovary     | 100gm                         | 2 – 8 °C<br>– 20 °C                                  | 48 hrs<br>>24 hrs               | 3 days                                      |

Note:

i/a: intra allantoic

i/y: intra yolk

CAM: chorioallantoic membrane

VTM: viral transport media



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### ZOONOTIC

#### LABORATORY TESTS FOR DISEASES OF MULTIPLE SPECIES

| DISEASE/<br>PATHOGEN | DIAGNOSTIC<br>METHOD/ TEST                               | TYPE OF SAMPLE<br>REQUIRED                  | MINIMUM<br>REQUIREMENT<br>OF SAMPLE FOR<br>TEST                  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN AROUND<br>TIME (TAT)<br>(Working Days) |
|----------------------|--|---|--|--|---------------------------------|---|
| Rabies               | Rabies Tissue<br>Culture Infection<br>Test<br>(RTCIT)    | a) Brain,<br>b) Saliva<br>c) Salivary gland | ✓ Part of brain min<br>100 gm in VTM<br>✓ Saliva swabs in<br>VTM | 2 – 8 °C to -70 °C                                   | 48 hrs longer                   | 21 – 28 days                                |
|                      | Fluorescent<br>Antibody<br>Neutralization Test<br>(FAVN) | Serum                                       | 2 ml   | 2 – 8 °C to -20 °C                                   | 48 hrs longer                   | 3 – 4 weeks                                 |
|                      |  | Blood in plain tube                         | >5 ml  | 2 – 8 °C to -20 °C                                   | 48 hrs longer                   | 3 – 4 weeks                                 |
| Nipah                | Serum<br>Neutralization Test<br>(SNT)                    | Serum                                       | 2 ml   | 2 – 8 °C to -20 °C                                   | 48 hrs longer                   | 10 – 15 days                                |
|                      |  | Blood in plain tube                         | >5 ml  |  |                                 |   |

Note:

VTM: viral transport media



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### PARASITOLOGY

| DISEASE/<br>PATHOGEN  | DIAGNOSTIC METHOD/<br>TEST | TYPE OF SAMPLE REQUIRED  | OPTIMUM<br>CONDITION FOR<br>SAMPLE<br>TRANSPORTATION | PERIOD OF<br>SAMPLE<br>VALIDITY | TURN<br>AROUND TIME<br>(TAT)<br>(Working<br>Days) |
|---|----------------------------|--|--|---------------------------------|---|
| <ul style="list-style-type: none"> <li>• Roundworm</li> <li>• Tapeworm</li> </ul> | McMaster technique         | Faeces: >3 gm  | 4 – 8°C  | 2 days                          | 5 days  |
|   | Floatation                 |  |  |                                 |   |
|   | Worm identification        | Fresh worm specimen<br>Gastrointestinal <ul style="list-style-type: none"> <li>• Intestine: &gt;5 cm</li> <li>• Non-ruminant: stomach</li> <li>• Ruminant: rumen, reticulum, abomasum</li> </ul> | 4 – 8°C<br>(Preferable in Normal Saline)             | 24 hour                         | 2 – 4 weeks                                       |
| <ul style="list-style-type: none"> <li>• Fluke</li> </ul>                         | Sedimentation              | Faeces: 5 gm   | 4 – 8°C  | 2 days                          | 5 days  |
|   | Worm identification        | Organ: >10 cm <sup>3</sup>   | 4 – 8°C  | 24 hours                        | 5 days  |
| <ul style="list-style-type: none"> <li>• Microfilaria</li> </ul>                  | Buffy coat                 | Blood in EDTA/ Heparin: >1 ml  | 4 – 8°C  | 24 hours                        | 5 days  |
|   | Thin blood smear           |  |  |                                 |   |
| <ul style="list-style-type: none"> <li>• Blood Protozoa</li> </ul>                | Buffy coat                 | Blood in EDTA/ Heparin: >1 ml  | 4 – 8°C  | 24 hours                        | 5 days  |
|   | Thin blood smear           | Blood in EDTA/ Heparin: >1 ml  | 4 – 8°C  | 24 hours                        | 5 days  |
|   |                            | Fixed/non-fixed thin blood smear   | Room temperature                                     | < 3 days                        |   |
| Impression/ squash smear  | Organ: >2 cm <sup>3</sup>  | 4 – 8°C  | 24 hours   | 5 days                          |   |
| <ul style="list-style-type: none"> <li>• Coccidiosis</li> </ul>                   | McMaster technique         | Faeces: >3 gm  | 4 – 8°C  | 2 days                          | 5 days  |
|   | Floatation                 |  |  |                                 |   |
|   | Intestinal scrapping       | Intestine: >5 cm   | 4 – 8°C  | 24 hours                        | 5 days  |



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### VRI GUIDELINES FOR SAMPLE SUBMISSION

| DISEASE/ PATHOGEN   | DIAGNOSTIC METHOD/ TEST     | TYPE OF SAMPLE REQUIRED      | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|---|-----------------------------|------------------------------|---|---------------------------|---------------------------------------|
| <ul style="list-style-type: none"> <li>• Ectoparasites:               <ul style="list-style-type: none"> <li>▪ Ticks</li> <li>▪ Mites</li> <li>▪ Lice</li> <li>▪ Fleas</li> </ul> </li> </ul> | Ectoparasite identification | Fresh ectoparasites specimen | In plastic container at room temperature    | < 3 days                  | 2 – 4 weeks                           |

### HAEMATOLOGY

| DISEASE/ PATHOGEN   | DIAGNOSTIC METHOD/ TEST    | TYPE OF SAMPLE REQUIRED       | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|---|----------------------------|-------------------------------|---|---------------------------|---------------------------------------|
| <ul style="list-style-type: none"> <li>• Anemia;               <ul style="list-style-type: none"> <li>▪ Parasitaemia</li> <li>▪ Helminthiasis</li> <li>▪ Ectoparasite infestation</li> </ul> </li> </ul>              | Packed cell volume (PCV)   | Blood in EDTA/ Heparin: > 1ml | 4 – 8°C                                     | 24 hours                  | 2 days                                |
| <ul style="list-style-type: none"> <li>• Infection of pathogenic agents;               <ul style="list-style-type: none"> <li>▪ Virus</li> <li>▪ Bacteria</li> <li>▪ Parasite</li> <li>▪ Toxin</li> </ul> </li> </ul> | Complete blood count (CBC) | Blood in Heparin/EDTA: > 5 ml | 4 – 8°C                                     | 24 hours                  | 3 days                                |

\*\* TAT may vary if number of samples received is more than 20 for a particular test



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**VRI GUIDELINES FOR SAMPLE SUBMISSION**

**BIOCHEMISTRY**

**CLINICAL CHEMISTRY ANALYSIS**

**Species : ALL TYPES OF ANIMAL**

| PARAMETER                              | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE                    | PACKAGING   | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION  | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|--|--|---|--|---------------------------|---------------------------------------|
| Alanine aminotransferase (ALT/ GPT)    | a) Whole blood in blood plain tube/ heparin tube: 5 ml<br>b) Serum: 1.5 ml | <ul style="list-style-type: none"> <li>✓ Whole blood in blood plain tube/ heparin tube</li> <li>✓ Serum in microtube</li> </ul> | <ul style="list-style-type: none"> <li>✓ Whole blood 4 - 8°C</li> <li>✓ Serum 0 - 8°C</li> </ul> | < 3 days                  | 6 days                                |
| Albumin (ALB)#                         |  |   |  | < 6 days                  |                                       |
| Alkaline phosphatase (ALKP)            |  |   |  | < 7 days                  |                                       |
| Ammonia (NH <sub>3</sub> )*            |  |   |  | < 2 hours                 |                                       |
| Amylase (AMYL)#                        |  |   |  | -                         |                                       |
| Aspartate aminotransferase (AST/ GOT)* |  |   |  | < 3 hours                 |                                       |
| Calcium (Ca <sup>2+</sup> )            |  |   |  | < 10 hours                |                                       |
| Cholesterol (CHOL)                     |  |   |  | < 6 hours                 |                                       |
| Creatine Kinase (CK)                   |  |   |  | < 7 days                  |                                       |
| Creatinine (CREA)#                     |  |   |  | -                         |                                       |
| Gamma-glutamyltransferase (GGT)        | < 7 days   |   |  |                           |                                       |





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**VRI GUIDELINES FOR SAMPLE SUBMISSION**

| PARAMETER                    | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE                    | PACKAGING   | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|------------------------------|--|---|---|---------------------------|---------------------------------------|
| Glucose (GLU)*               | a) Whole blood in blood plain tube/ heparin tube: 5 ml<br>b) Serum: 1.5 ml | ✓ Whole blood in blood plain tube/ heparin tube<br>✓ Serum in microtube | Whole blood 4-8°C<br>Serum 0-8°C            | < 4 hours                 | 6 days                                |
| Inorganic Phosphate (PHOS)*  |  |   |   | < 7 days                  |                                       |
| Lactate dehydrogenase (LDH)* |  |   |   | < 3 days                  |                                       |
| Total Bilirubin (TBIL)*      |  |   |   | only fresh serum          |                                       |
| Total protein (TP)           |  |   |   | < 6 days                  |                                       |
| Triglycerides (TRIG)#        |  |   |   | -                         |                                       |
| Urea/ BUN                    |  |   |   | < 3 days                  |                                       |

**\*REFER TO TABLE A**

**#NO INFORMATION**



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

**TABLE A: Sample Handling Before Centrifugation for Use with VETTEST 8008**

| PARAMETER        | REQUIRED IF CENTRIFUGATION IMMEDIATELY | DESCRIPTION   |
|------------------|--|---|
| ALB              | ALLOWED                                | None  |
| ALKP             | ALLOWED                                | None  |
| ALT/ GPT         | ALLOWED                                | None  |
| AMYL             | ALLOWED                                | None  |
| AST/ GOT         | YES                                    | Slight haemolysis can cause marked increases in plasma AST activity   |
| Ca <sup>2+</sup> | ALLOWED                                | Avoid exposure of sample to the air.  |
| CHOL             | ALLOWED                                | None  |
| CK               | ALLOWED                                | Blood samples must be centrifuged immediately after collection. Slight haemolysis can cause marked increases in plasma CK activity  |
| CREA             | ALLOWED                                | None  |
| GGT              | ALLOWED                                | None  |
| GLU              | YES                                    | In heparin tube glycolysis occurs in the presence of red cells; the glucose concentration can diminish at the rate of up to 10% in hour at 20°C                                   |
| LDH              | YES                                    | Slight haemolysis can cause marked increases in plasma LDH activity.  |
| LIPA             | ALLOWED                                | None  |
| NH <sub>3</sub>  | YES                                    | Avoid exposure of the sample to the air. All sample containers should be capped unless sample is being withdrawn, to ensure that loss of ammonia or contamination does not occur. |
| PHOS             | YES                                    | Phosphates are released quickly from the red cells. Haemolysed samples can give erroneous high phosphate concentrations.  |
| TBIL             | YES                                    | If immediate analysis is impossible, the plasma must be removed and stored in the dark between 4°C and 8°C as bilirubin degrades rapidly in light.                                |
| TP               | YES                                    | Haemolysed samples can result in raised plasma protein concentrations.  |
| TRIG             | ALLOWED                                | None  |
| Urea/ BUN        | ALLOWED                                | None  |

### REFERENCES

VETTEST 8008: Blood Chemistry Analyzer Manual. 1992. Idexx Laboratories, Inc



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**VRI GUIDELINES FOR SAMPLE SUBMISSION**

**ANIMAL FEED ANALYSIS**

**Species : ALL TYPES OF ANIMAL**

| PARAMETER                                   | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE | PACKAGING                                      | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|---|---|--|---|---------------------------|---------------------------------------|
| a) Dry matter/ moisture (%)                 |   |  |   |                           |                                       |
| b) Crude protein (%)                        | a) Fresh leaves (1 kg)                                  |  |   |                           |                                       |
| c) Crude fat/ Ether extract (%)             | b) Roughages (1 kg)                                     |  |   |                           |                                       |
| d) Crude fiber (%)                          | c) Legumes (1 kg)                                       |  |   |                           |                                       |
| e) Total ash (%)                            | d) Pellet (500 g)                                       |  |   |                           |                                       |
| f) Phosphorus (%)                           | e) Palm Kernel Cake (500 g)                             |  |   |                           |                                       |
| g) Calcium (%)                              | f) Plant byproduct (500 g)                              |  |   |                           |                                       |
| h) Broken Corn and foreign materials (BCFM) | g) (500 g)  |  |   |                           |                                       |
| i) Damage Kernels Total                     | h) Fruit peel (500 g)                                   |  |   |                           |                                       |
|   | i) Palm Oil Mill Effluent (500 g)                       | Plastic bag (packaging with proper condition). | Room Temperature                            | No time limit             | 14 days                               |
|   | j) Concentrated feed/ Formulated feed (500 g)           |  |   |                           |                                       |
|   | k) Pet food (3 cans)                                    |  |   |                           |                                       |
|   | l) Grain corn (>2.0kg)                                  |  |   |                           |                                       |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### WATER QUALITY ANALYSIS

Species : ALL TYPES OF ANIMAL

| PARAMETER  | TYPE OF SAMPLE REQUIRED /MINIMUM REQUIREMENT OF SAMPLE                                       | PACKAGING  | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|--|--|--|---|---------------------------|---------------------------------------|
| a) Ammonia (ppm)<br>b) Chloride (ppm)<br>c) Chlorine (ppm)<br>d) Copper (ppm)<br>e) Iron (ppm)<br>f) Nitrate (ppm)<br>g) Sulfate (ppm)<br>h) Zinc (ppm)<br>i) pH | a) Animal drinking water (>200 ml)<br>b) Waste water (>200 mL)<br>c) Treated water (>200 mL) | ✓ Plastic bottle free from specific parameter tested<br>✓ Clean glass bottle | 4 - 8°C                                     | Less than 2 days          | 4 days                                |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### MILK QUALITY ANALYSIS

Species : CATTLE, GOAT, BUFFALO

| PARAMETER   | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE | PACKAGING                                       | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY | TURN AROUND TIME (TAT) (Working Days) |
|---|---|---|---|---------------------------|---------------------------------------|
| a) Total Solid (%)<br>b) pH*<br>c) <i>Fat (%)</i> *<br>d) <i>Solid non-fat(%)</i> *<br>e) <i>Lactose(%)</i> *<br>f) <i>Protein(%)</i> *<br>g) <i>Freezing point(°C)</i> *<br>h) <i>Adulterant (Urea, Sucrose, Potassium Nitrate, Sodium Bicarbonate, Formaldehyde)(%)</i> * | Fresh milk<br>(100 mL)                                  | a) <i>Nasco WHIRL-PAK®</i><br>b) Plastic bottle | 4 – 8°C                                     | Less than 48 hours        | 4 days                                |

\* Result release by requested to VRI director.



## VRI GUIDELINES FOR SAMPLE SUBMISSION

### TOXICOLOGY

Species : ALL TYPES OF ANIMAL

| PARAMETER    | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE                                       | PACKAGING   | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION                  | PERIOD OF SAMPLE VALIDITY  | TURN AROUND TIME (TAT) (Working Days) |
|--------------|---|---|--|--|---------------------------------------|
| a) Aflatoxin | a) Feed contaminated with fungus (<500 g)<br>b) Internal organ (>100 g)<br>c) Muscle (>100 g) | ✓ Plastic bag (packaging with proper condition).<br>✓ Avoid exposed to direct sunlight. | ✓ Room temperature (feed sample)<br>✓ 4 – 8°C (sampel organ) | ✓ No time limit for feed sample<br>✓ Less than 24 hours for internal organ | 6 days                                |

### URINE ANALYSIS

Species : ALL TYPES OF ANIMAL

| PARAMETER   | TYPE OF SAMPLE REQUIRED / MINIMUM REQUIREMENT OF SAMPLE                      | PACKAGING  | OPTIMUM CONDITION FOR SAMPLE TRANSPORTATION | PERIOD OF SAMPLE VALIDITY  | TURN AROUND TIME (TAT) (Working Days) |
|---|--|--|---|--|---------------------------------------|
| a) Urobilinogen<br>b) Bilirubin<br>c) Ketone<br>d) Blood<br>e) Protein<br>f) Nitrite<br>g) Leukocytes<br>h) Glucose<br>i) Specific Gravity<br>j) pH | a) Fresh urine/ Sample volume more than 15 ml<br>b) Don't centrifuge sample. | ✓ Urine sample can be store into a plastic or glass bottle<br>✓ The bottle must be clean and free from specific parameter tested | 4 - 8°C                                     | c) 2 hours is the optimal storage period<br>d) 24 hours for maximum storage period | 4 days                                |



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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### **GENERAL CRITERIA FOR ACCEPTANCE OR REJECTION OF SPECIMEN**

| NO  | TYPE OF SPECIMEN                   | CRITERIA FOR ACCEPTANCE                               |  | CRITERIA FOR REJECTION  |
|-----|------------------------------------|---|--|---|
| 1.  | Serum                              | As described in<br>Minimum Requirement for<br>Samples | As described in<br>Optimum condition for<br>Transportation | ✓ Haemolysed, solidified, cloudy, inadequate volume, lipemic, semi-solid serum, icteric |
| 2.  | Whole blood                        |   |  | ✓ Haemolysed, inadequate volume   |
| 3.  | Pooled organ, other organ, carcass |   |  | ✓ Autolysed   |
| 4.  | Faeces                             |   |  | ✓ Frozen  |
| 5.  | Feed                               |   |  | ✓ Spoilt feed   |
| 6.  | Urine                              |   |  | ✓ Not fresh (more than 24 hours)  |
| 7.  | Skin scrapping                     |   |  | ✓ Bad packaging   |
| 8.  | Milk                               |   |  | ✓ Contaminated, bad packaging, not fresh  |
| 9.  | Meat                               |   |  | ✓ Autolysed, contaminated   |
| 10. | Water                              |   |  | ✓ Bad packaging   |
| 11. | Swab                               |   |  | ✓ Wrong transport media, wrong ratio between transport media and swab                   |
| 12. | Histology samples                  |   |  | ✓ Wrong ratio between formalin and sample, bad packaging, frozen, autolysed             |
| 13. | Egg                                |   |  | ✓ Rotten egg  |
| 14. | Bird Nest                          |   |  | ✓ Bad packaging   |

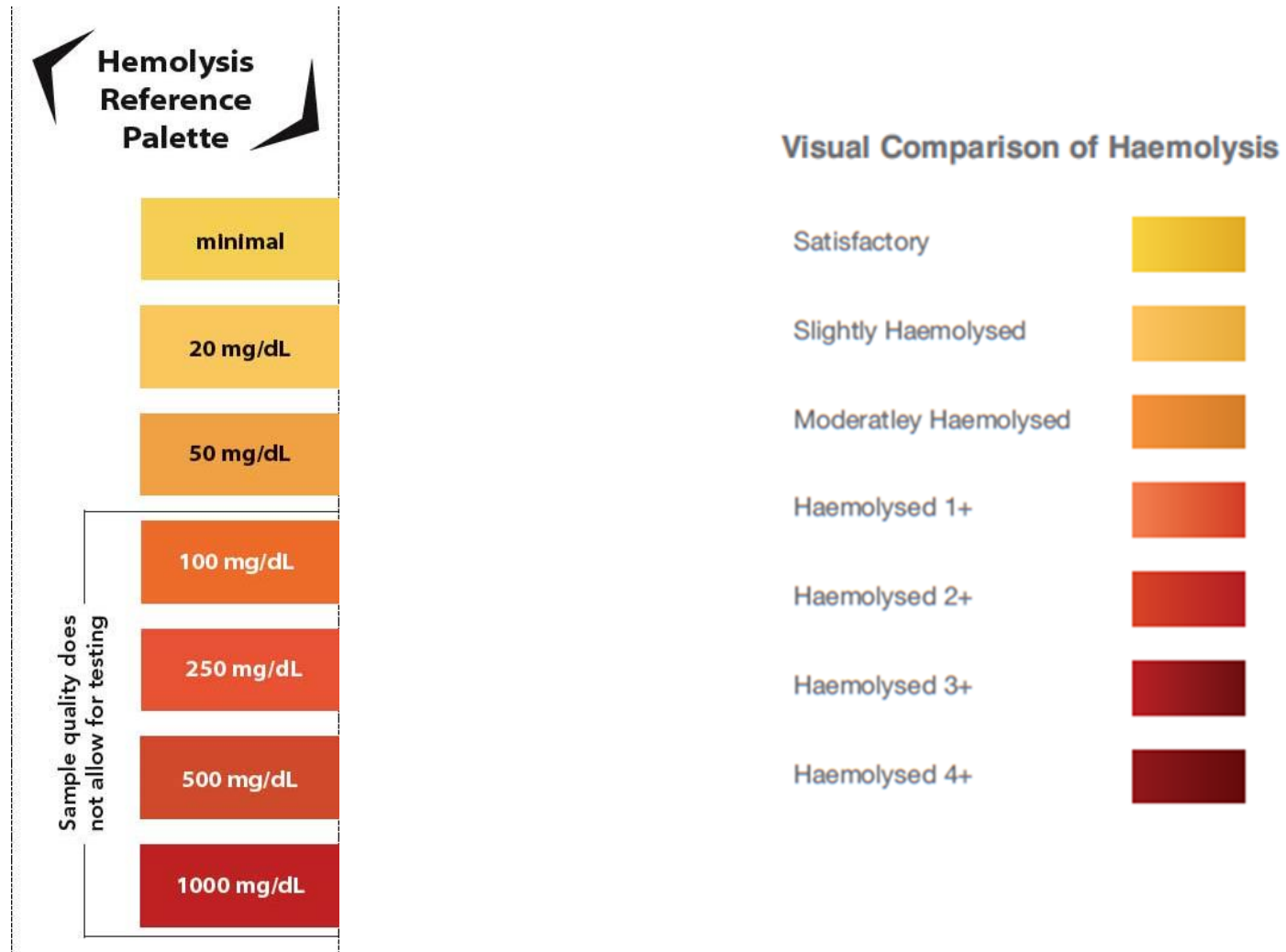


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## VRI GUIDELINES FOR SAMPLE SUBMISSION

### HAEMOLYSIS CHART (FOR SERUM SAMPLE)







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## VRI GUIDELINES FOR SAMPLE SUBMISSION

Prepared by :

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- a) Pathology
- b) Bacteriology
- c) Serology
- d) Immunoassay
- e) Mammalian Virology
- f) Avian Virology
- g) Zoonotic
- h) Parasitology & Haematology
- i) Biochemistry

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Date: 24/7/2023