



**Aquaculture Pathology Laboratory
Department of Veterinary Science and Microbiology
University of Arizona**

**Laboratory Diagnostic Service Price List
For Penaeid and Freshwater Shrimp and other Crustaceans
Effective March 21, 2011**

1. Diagnostic procedures by direct microscopy of wet mounts, tissue smears, or by routine histopathology (Mayer's H&E stain of paraffin blocks). Costs are per subset.

Definition: A subset is defined as any group of specimens from the same pond, tank or source with the same collection date. Client must indicate if samples are to be analyzed as pooled subsets.

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| a. Eggs, larvae, postlarvae (up to PL 30)-(1-50) and early juveniles (> PL31 ~0.9 grams) 1-10 shrimp/subset | \$140.00 |
| b. Juveniles (~1gram to <12 grams); first 1-5 shrimp/subset:
Each additional shrimp within this subset charged at \$28.00. | \$140.00 |
| c. Adults (>12 grams); first 1-5 shrimp/subset:
Each additional shrimp within this subset charged at \$34.00. | \$170.00 |
| d. Duplicate H&E slides | \$12.00/slide |
| e. Special stains (non-silver) | \$15.00/slide |
| f. Wet mounts / gross observations | \$75.00/hour |
| g. Processing of blocks: sectioning/staining only (no dissection, no analysis) | \$15.00/block |

2. *In situ* hybridization (gene probe) for selected pathogens
(WSSV, IHHNV, TSV, YHV, HPV, MBV, BP, IMNV, PvNV, certain bacteria, rickettsia-like bacteria and NHP-B)

- a. \$50.00 basic set-up fee; plus
- b. \$27.00 per slide

3. Immunohistochemistry (antibody) for selected pathogens (WSSV or TSV)

Inquire by telephone (520-621-4438) or by email (aquapath@ag.arizona.edu) regarding availability, scheduling of test(s) and cost.

4. Standard PCR (RT-PCR) detection for selected pathogens

Definition: A sample is defined as one “specimen” submitted for analysis. This can be one frozen shrimp, one tube with hemolymph from one shrimp, one tube of pooled hemolymph from up to 5 juvenile shrimp or broodstock, a pooled homogenate of PLs, etc.

DNA viruses (IHHNV, WSSV, BP, MBV, HPV, SMV); **RNA viruses** (TSV, YHV, GAV, IMNV, PvNV, MoV, LSNV); certain bacteria (NHP-B) and the fungal agent of crayfish plague.

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| a. Frozen shrimp tissue, hemolymph, feed & feces that require extraction. | \$34.00/sample/pathogen |
| b. Samples preserved in ethanol that require extraction. | \$37.00/sample/pathogen |
| c. A pair of DNA viruses (ex. IHHNV/WSSV); a pair of RNA viruses (ex. TSV/YHV-GAV); a pair of enteric pathogens (MBV, HPV, BP, NHP-B) from the same extracted sample. | \$50.00/sample/pathogen/pair |
| d. Additional pathogens from the same extracted sample. | \$22.00/sample/pathogen |
| e. Extracted DNA or RNA. | \$22.00/sample/pathogen |

Certain bacteria and parasites (*Vibrio* spp., microsporidia and rickettsia-like bacteria)

Inquire by telephone (520-621-4438) or by email (aquapath@ag.arizona.edu) regarding availability and cost.

5. Real Time PCR (RT-PCR) for selected pathogens

DNA viruses (IHHNV, WSSV, HPV, MBV); **RNA viruses** (TSV, YHV, IMNV); **Others:** inquire

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| a. Basic set-up fee; in addition to procedure. | \$70.00 |
| b. Frozen shrimp tissue, hemolymph and feed that require extraction. | \$34.00/sample/pathogen |
| c. Samples preserved in ethanol that need extraction. | \$37.00/sample/pathogen |
| d. IHHNV/WSSV, HPV/MBV, TSV/YHV, TSV/IMNV from same extracted sample. | \$50.00/sample/pathogen pair |

6. Dot Blots (WSSV and IHHNV)

Inquire by telephone (520-621-4438) or by email (aquapath@ag.arizona.edu) regarding availability and cost.

7. Microbiology

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| a. Basic set-up fee for sample preparation/isolation - in addition to the procedure requested. | \$100.00 |
| b. Identification (API system) | \$ 50.00/isolate |
| c. Antibiotic sensitivity (disk diffusion; 10 disk) ** | \$100.00/isolate |
| d. MIC in agar (per drug) ** | \$125.00/isolate |
| e. Other microbiology procedures call for a quote - 520-621-4438.
** Call for availability of antibiotics for this test - 520-621-4438. | |

8. Challenge studies with selected pathogens of shrimp

UAZ has challenge models available for TSV, WSSV, IMNV, YHV, IHHNV and *Vibrio* spp. for evaluating resistance in selected families and for testing feed additives (probiotics, prebiotics, etc.). Please inquire by telephone (520-626-1390/ 520-621-4438) or by email (bwhite@ag.arizona.edu or aquapath@ag.arizona.edu) so that we can design a study for your application.

9. Diagnostic services for finfish/mollusc diseases

Inquire by telephone (520-621-4438) or by email (aquapath@ag.arizona.edu) regarding availability and cost.

Administrative services

1. The UAZ-APL laboratory operates on a cost recovery basis. Therefore,
 - a. Payment will be expected prior to the release of the final report.
 - b. On cases exceeding \$1,000.00 (USD) a pre-payment of the total estimated cost of the case may be required. This payment is necessary to cover the costs needed to run the diagnostic tests.

2. Rush fees

Testing can be expedited upon request. A rush fee for the handling of expedited cases will be 50% above the normal cost of the case.

3. Administrative fees

- a. Upon request, reports will be sent by courier (Federal Express or DHL) if an account number is provided.
- b. Charges for faxing reports will be invoiced if the long distance phone rate is unusually high.
- c. Multiple copies of original report (with same address). \$1.50/copy
- d. Multiple copies of original report (with different addresses). \$2.50/report
- e. Duplicate reports (after the release of final report). \$5.00/report