

Development of Quality Assessment Guideline for *Litopenaeus Vannamei* (Whiteleg Shrimp) Post Larvae

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Penaeus monodon is the main brackish water aquaculture species in Sri Lanka which targets the production for the export market. *Litopenaeus vannamei* (*Penaeus vannamei*) was introduced in 2018 as a new species expecting a rapid increase in production in the country. As a management strategy implemented by the National Aquaculture Development Authority (NAQDA), the assessment of post larvae quality is a compulsory requirement to obtain a better harvest via better growth without disease infections. Quality assessment of the *P. monodon* is based on 10 criteria and a minimum of 80% marks are required to get the approval for stocking. Up to now, the same assessment method has been used for *P. vannamei*, and due to some morphological and anatomical deviations; it did not totally comply with the new species. Hence, this study aimed to develop a post larvae quality assessment guideline for *Litopenaeus vannamei* with a score allocation procedure for each quality assessment criterion. The characteristics of different post-larvae stages (PL 1 - PL 30) from three different culture cycles of *Litopenaeus vannamei* were evaluated under each criterion and performed microscopically and morphologically. The microscopic observations were *Monodon baculoviruses* and Baculovirus penaeid, condition of hepatopancreas and gut content, necrosis and deformities, epibiont fouling, muscle opaqueness, and gut to muscle ratio of post larvae. The average body length, rostral spines, and size variation of each PL stage were the morphological observations measured to apply as standard values. The obtained values for post larvae of *P. vannamei* differed from the values of *P. monodon*. This study reveals the incompatibility of using the same assessment method for both shrimp species. Revision of marks allocation procedure, validation of the quality assessment method, and introduction as a new guideline will contribute to the future development of the *Litopenaeus vannamei* farming industry in Sri Lanka.

Keywords: *Litopenaeus vannamei*, Post larvae quality, Quality assessment guideline, Shrimp farming