# Comparative Study on Growth Performance and Profitability of Shrimp Farming Industry in Sri Lanka: Native *Penaeus monodon* vs. Imported Specific Pathogen Free

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Until 2018, *Penaeus monodon* was the main commercial-scale cultured shrimp species in Sri Lanka and the seed production industry depended on wild-caught native broodstock. Due to the high prevalence of White Spot Disease among the wild-collected brood shrimps, the farming industry has been affected by post larvae shortage and disease outbreaks. As a solution, National Aquaculture Development Authority has decided in 2016 to introduce Specific Pathogen Free (SPF) broodstock to the industry imported from Thailand and they are planning to encourage the SPF shrimp farming in the country. Therefore, this study was focused to compare the growth performance and profitability of farming these two varieties. During the period of 21$^{st}$ March 2019 to 28$^{th}$ February 2020, 14 ponds for each variety were selected from the Ambakandawila area in Puttalam District for the study. Data collection was initiated after the 8$^{th}$ week of the stocking and continued up to the harvest. Specific Growth Rate (SGR), Survival Rate (SR), Average Daily Gain (ADG) of the body weight, Feed Conversion Ratio (FCR), total cost, revenue, and net profit were calculated. SGR was recorded as 2.51 ± 0.1 & 2.13 ± 0.06 and ADG of the body weight was recorded as 0.31 ± 0.02 & 0.23 ± 0.01 g day$^{-1}$ for SPF and native shrimp varieties respectively. SR was recorded as 70.1 ± 3.4% & 69.9 ± 3.2% and FCR was recorded as 1.51 ± 0.04 and 1.54 ± 0.07 for SPF and native shrimp varieties respectively. It recorded 1,482,311.62 ± 50,687.49 and 1,087,716.21 ± 72,449.54 LKR acre$^{-1}$ as the total cost of the farming of SPF and native shrimp varieties respectively. Total revenue was recorded as 1,783,733 ± 102,197 and 1,535,122 ± 162,199 LKR acre$^{-1}$ and estimated net profit was calculated as 301,421 ± 105,412 and 447,406 ± 101,576 LKR acre$^{-1}$ for SPF and native shrimp culture systems respectively. Although the SGR, SR, ADG, FCR are better in SPF shrimps than native shrimps, profitability mainly depends on the total cost.

*Keywords:* SPF *Penaeus monodon*, Shrimp farming, Growth performance, Profitability