



Comparative studies on antioxidant properties of wild and cultured shrimps

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Abstract

The aim of the study was to compare the antioxidant potential on edible parts of wild *Penaeus* species (*P. semisulcatus*, *P. indicus*, *P.monodon* and *Metapenaeus monoceros*) and culture *Penaeus* species (*P. vannamei*, *P.monodon*) Antioxidant properties of the samples were assessed using 1, 1-diphenyl-2-picrylhydrazyl and hydrogen peroxide radical scavenging assays for ascorbic acid equivalents. Various concentrations of methanolic extract of the sample (4.0ml) were mixed with 1.0ml of methanolic solution containing DPPH radicals, resulting in the final concentration of DPPH being 0.1mM and IC₅₀ value was calculated. From the results, the culture species *P.vannamei* was recorded maximum inhibition 97.69% at 4000 µg /ml followed by *P.monodon* (culture) 96.62% with IC₅₀ value at low concentration 2500 µg /ml. On comparing wild *Penaeus* species, *P. indicus* shown the maximum inhibition of 92.68% at 4000 µg /ml with IC₅₀ at 2000 µg /ml and *Metapenaeus monoceros* shown 92.56% at 4000 µg /ml, IC₅₀ value 2500 µg /ml, respectively. Hence the study revealed that both wild and cultured shrimps are rich in antioxidant property observed by DPPH radical scavenging activity. Shrimp could be a unique source of the antioxidant and prevent the reduction of oxidative stress.

Keywords: Shrimp, DPPH, Antioxidant