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Identifying melanosis producing bacteria from shrimp with utilization perspective.

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Melanosis, which is also called as black spot, the enzymatic browning of phenolic compounds in shrimp is considered as a challenge in processing industry. The melanosis happens either due to the innate immune response (Prophenoloxidase system) or due to the tyrosinase producing bacteria in the system (Nirmal *et al.*, 2009). The tyrosinase producing bacteria convert the phenolic compounds into melanin with the help of phenol oxidase enzymes. The final product melanin and the intermediate products such as L-dopa (L-3,4-dihydroxyphenylalanine), dopaquinone and dopamine are commercially important. Tyrosinases are the key enzymes to form the biopolymer melanin which have inherent properties like absorption of UV radiation, metals, sound and also have anti-oxidant and semi-conductor properties are used in the production of complex biopolymers (EMPA., 2010) These bacteria has the potential to be used for tyrosinase enzyme production, biocompost production from fishery products, phenolic waste treatment and also for melanin production (Amonette *et al.*, 2004;., Kafilzadeh et al., 2010;., Cédric *et al.*, 2016.)

In this study, *Penaeus vannamei* was procured from market of Ukkadam, Coimbatore with melanosis. Tyrosin enriched nutrient agar media was used for isolation of colonies. Three isolates i.e TMA7, TMA9, TMA10 showing maximum tyrosinase production were selected for further studies.

Potential tyrosinase producing isolates TMA 7, TMA9 and TMA10 were selected for identification using 16 S rDNA sequencing. Crude DNA was extracted from the young cultures from tyrosinated broth the phenol chloroform method. The forward and reverse primer used are 27F AGAGTTTGATCCTGGCTCAG and 1492R ACGGYTACCTTGTTACGACTT. Amplified product of 1500 bp was sequenced by sanger sequencing. Blast analysis of the Isolates TMA7,TMA9 ,TMA10 shown similarity for *Bacillus sp, Acinetobacter Sp,* and *Bacillus megaterium* respectively. Phylogenetic tree constructed revealed the distances and similarity of these bacteria. The study has provided the evidence *Bacillus sp* could be a potential source of tyrosinase enzyme for application in the shrimp waste industry.

Tyrosinases from microbes are being exploited for a variety of biotechnological and environmen-

tal applications and thus have attracted various groups actively engaged in molecular characterization and bioengineering studies. Melanosis which considered as a poor quality indicator in post mortem shrimp maintenance can be effectively utilized for bacterial isolation with multifunctional utilities

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Stakeholders feasibility analysis: A tool for successful entrepreneurship in fisheries

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Stakeholders interest and attitude determines the success and failure of any enterprise. Hence, it is often treated predominant to examine the feasibility of stakeholders' during early stages of enterprise development. Stakeholders' feasibility analysis is the process of collecting and analyzing data prior to the new business start-up, and then using knowledge thus gained to formulate the business plan itself (Castrogiovanni, 1996). At the pre start-up phase, usually attempt is made to identify the potential stakeholders, which produce often unsatisfactory results due to lack of systematic approach while identifying the stakeholders.

An attempt was made using systematic method to assess the stakeholder feasibility towards establishing fish based enterprise at Kadamakkudy village, Ernakulam, Kerala with emphasis on identification and determination of stakeholders. The stakeholders' viz., end users and service providers were contacted for the study. The determination of stakeholders (service providers) was looked into as per Salience model using three attributes viz., power, legitimacy and urgency (Currie et al., 2009). A customized overall stakeholders feasibility index (OSFI) was developed for assessing the level of stakeholders' feasibility (end users).