

Jawala chutney powder: A byproduct from Jawala shrimp

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The over-exploitation of fishes in the ocean have been paid increasing attention for value addition of low valued fishes. Current scenario in fisheries all over the world is zero utilization of fishery waste. During 2014, the annual marine fish landing of Gujarat was 7.12 lakh tonnes and the non-penaeid shrimp contributed 67.50% in the Crustacean landing (CMFRI, 2015). *Acetes indicus*

(Jawala shrimp) (Fig. 1), one of the major non-penaeid prawn abundant in Veraval, is caught in trawl net as bycatch and mainly used for fish meal production. Production of chutney powder from jawala shrimp is a better way to utilize this shrimp resource for the conversion of under-utilized bycatch into high value byproduct for human consumption.



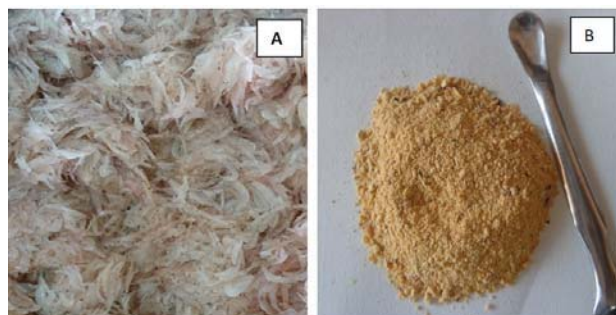


Fig. 1. A: Fresh jawala shrimp; B: Jawala chutney powder

Jawala shrimps purchased from the local fish market were dried in the solar drier (CIFT Dryer-JSDE 5) until the moisture content reached 9%. Methodology for the preparation of ready to use jawala chutney powder (Fig 1B) was standardized. The shelf life of LDPE packed ready to eat jawala chutney powder stored at room temperature was assessed by total volatile base nitrogen (TVB-N) and total viable count (TVC) for six months at monthly interval.

The proximate composition of fresh jawala shrimp and jawala chutney powder were analyzed according to the AOAC method (2000). The protein content was very high in fish chutney powder (26.8%) than raw sample (8.0%). The higher protein content was due to the dried fish and the masala content present in the powder. The moisture content of fish chutney powder was 4.36% (Fig. 2).

TVC was assessed by the standard method of USDA Bacteriological Analytical Manual (BAM) (2001). The chemical quality parameter, TVB-N, was analyzed by the method described by Conway and Byrne (1933). The pH value was determined

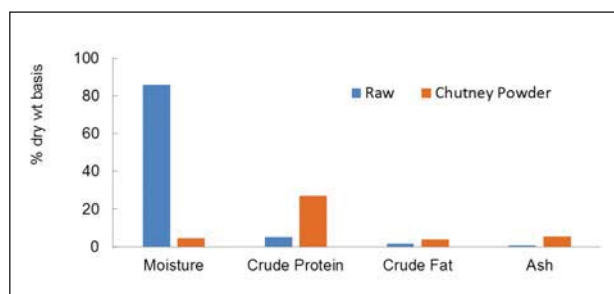


Fig. 2. Proximate composition of fresh Jawala sample and chutney powder

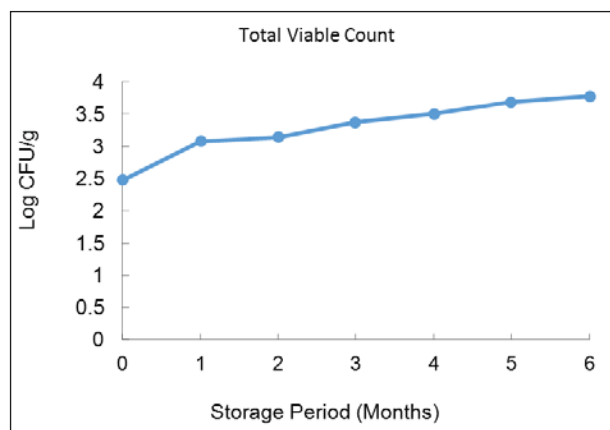


Fig.3. Total viable count of Jawala chutney powder

by dipping a pH electrode in the homogenate of samples in distilled water (1:1).

The initial TVB-N value was 3.8 mg/100g, which increased to 18.1 mg/100g at the end of six months of storage period. The pH decreased from 7.1 to 5.4 during the six months of storage study. Changes in the total viable count (TVC) of jawala chutney powder are shown in Figure 3. The initial TVC of chutney powder was 2.5 log cfu/g, and this low initial TVC indicated the superior quality of raw material. TVC gradually increased and reached 3.78 log cfu/g at the end of the storage period. The storage study on both chemical and microbial quality of chutney powder revealed that the shelf life of the product was in acceptable condition even after six months.

References

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