Preliminary quality evaluation of maldive fish: A comparison between Southern Sri Lankan and imported products

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The Total Bacterial Counts (TBC) and the percentage moisture contents of some local and imported maldive fish products (N = 30) were evaluated in relation to the storage time and storage method (eg. normal polythene packaging). Local products were also evaluated with the processing method. The % moisture of the products significantly varied among different origins ($p<0.05$: ANOVA) where the products imported from Maldives contained significantly lower % moisture than those from other origins. The mean % moisture contents of non-packaged samples from Kudawella, Dewundara, Mirissa, Kottegoda, India and Maldives were 19.0, 24.7, 26.8, 18.8, 22.0 and 17.4 respectively. The TBC significantly differed among the origins ($p<0.05$: ANOVA) and different storage times ($p<0.05$: Two sample T test). However, no significant relationship could be noted between TBC and % moisture content. The mean TBC of samples below two weeks of storage was $63.6x10^5$ cfu/g while mean TBC of samples over two weeks of storage was $226.9x10^5$ cfu/g. However, there was no significant difference ($p>0.05$: Two sample T test) of TBC between the local and imported (268 and 242.1 $x10^5$ cfu/g respectively) non-packaged products with more than 2 weeks storage time. The TBC was found to be significantly lower in packaged products than non-packaged products during storage ($p<0.05$: Two sample T test) where the non-packaged and packaged samples over two weeks of storage time recorded 247.3 and $125x10^5$ cfu/g TBC respectively. The non-smoked local products of less than two week of storage time had significantly higher TBC and percentage moisture contents ($197.5x10^5$ cfu/g and 26.8 respectively) than the smoked ($19.0x10^5$ cfu/g and 20.9) products of same storage period ($p<0.05$: Two sample T test). Present study highlights the importance of proper packaging and the adaptation of a smoking process prior to sun drying in order to enhance the keeping quality of the local maldive fish products.

Keywords: maldive fish, quality, total bacterial count, moisture percentage, storage time

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