

D-10: Histamine content in some commercially important dried fish

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Dried fish is a traditional food commonly consumed in Sri Lanka and major portion per capita consumption of fish is taken in as dried fish. Histamine is commonly referred to as scombrototoxin poisoning due to its frequent association with the consumption of spoiled tuna and mackerel. This study was directed to assess the quality of dried fish from producing centres and consumer areas with special reference to level of histamine.

Samples of dried fish were collected and examined for level of histamine (from coastal producing centres and inland retailing markets, in 1994). Wide range of varieties including Scombrotoxin and non-Scombrotoxin fish were selected for samples. During the survey periods visits were made to producing centres and consumer retail centres and 133 samples were collected. Of these 44 were from producing areas. Determination of histamine was carried out using enzymatic and fluorometric methods. Total bacterial counts (TBC), total fungal counts (TFC) and histidine decarboxylating organisms were also determined.

Of 27 samples free of any histamine, 17 were from producing areas. However the histamine levels were below 6 mg/100g in 35.4% of samples collected from producing areas and 30.3% of the samples collected from retail centres. Higher histamine levels (> 100 mg/100g) were found in 17.7% and 14.6% of the samples collected from producing areas and retail centres respectively.

The samples were contaminated with bacteria and fungi. TBC and TFC were comparatively low ($< 10^2$ /g) only in 1.4% and 66.6% of the samples collected from producing areas; in 56.3% and 84.9% of the samples collected from retail areas respectively. Higher TBC and TFC ($> 10^5$ /g) were found in 6.9% and 5.1% of the samples in producing areas; 4.1% and 1.8% of the samples collected from retail centres. TBC within the 10^2 - 10^3 /g range were found in 72% (producing area) and 31.2% (retail centres) of the samples. TFC within the 10^2 - 10^3 /g range were found.

Irrespective of the area of collection, fairly high percentage of samples fail to meet the standard of acceptability for human consumption. This may be mainly due to belief among fishermen, that drying is a satisfactory method for disposing partially spoiled fish. Method of storage may also have contributed to high histamine levels in dried fish.

Educating the dried fish producers, wholesale dealers and retailers could help in improving the quality of product offered to consumers.