

## THE MEASUREMENT OF TOTAL VOLATILE NITROGEN (TVN) IN QUALITY CONTROL OF SOME BONY FISH IN THE RETAIL MARKETS OF THE CITY OF SHAHREKORD, IRAN.

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### Abstract

In the spring and summer of 2003, the Total 90 samples from three species of fishes, which are available in south sea and are called: (*Chirocentrus dorab*, *Teuthis siganus* and *Hilsa kanagurta*) were collected, from retail markets. The samples were examined by kjeldahl method for measurement of TVN in the meats. The results showed that in 5.55% of samples, TVN were more than normal rate. The mean value of TVN in *Chirocentrus dorab*, *Teuthis siganus* And *Hilsa kanagurta* were 20.3, 19.37 and 17.69 mg/100 g of meat respectively.

The rate of TVN in the central districts of the city of Shahrekord was lower than out skirts. And it is because of better supply, keeping of the fish and specially the better quality of non-frozen fishes.

Key words: Total Volatile Nitrogen (TVN), Quality control, and Bony fish, Retail markets.

### Introduction

With regards to the importance of fish and fish products as an important available resources of animal proteins and with attention to their rapid spoilage, it is necessary to open a new window in rapid and economic control of these products. Therefore we have carried out a study on 90 samples of bony fish in the retail markets sale in Shahrekord, IRAN, in 2003, with macro kjeldahl method for determination of Total Volatile Nitrogen (TVN).

### Material and methods

In the spring and summer of 2003, the Total 90 samples from three species of fishes, which are available in south

sea and are called: (*Chirocentrus dorab*, *Teuthis siganus* and *Hilsa kanagurta*) were collected, from retail markets. The samples were examined by kjeldahl method by A.O.A.C methods for measurement of TVN in the meat. 10 g from meat bony fish was obtain and to place in kjeldahl distillation system, then Volatile Nitrogen in glass balloon (to contain Boric acid 2%, methyl red, Bromocresol green), was collected and to titration by sulfuric acid (0.1 N) for measurement of TVN by mg / 100g of fish meat (1,2).

### Results

Out of 90 meat bony fish samples, 5(5.55%) of samples, TVN were more than normal rates (25mg/100g meat).

### Discussion

In comparison with previous study in Iran, for examples in Tehran, IRAN in 1999, in 85.7% of samples, TVN were more than normal rate(1). So in other study in Tehran, in 2000, in 3.4% of samples TVN were more than normal rate (1). The rate of TVN in the central districts of the city of Shahrekord was lower than out skirts. And it is because of better supply, keeping of the fish and specially the better quality of non-frozen fishes.

### References

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Table- 1) Characteristic of three species of bony fishes to measurement of TVN, in Shahrekord , IRAN(2003).

Species of bony fishes	Mean value	S.E	S.D	Max.	Min.
<i>Chirocentrus dorab</i>	20.3	0.55	3	28	15.4
<i>Teuthis siganus</i>	19.37	0.66	3.615	28	15.4
<i>Hilsa kanagurta</i>	17.69	.045	2.45	23.8	15.4