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RESEARCH ARTICLE

Study on biochemical parameters of fishmeal produced in sakhartar locality of Ratnagiri district of Maharashtra

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ABSTRACT : In India fishmeal is produced from sun-dried fish and in recent years from waste disposals such as prawn shell waste from processing factories and head, skin and bone from surimi manufacturing and cannery units. The samples were collected at random from Sakhartar locality, Ratnagiri. Four samples were drawn at random periodically after every fortnight for two months to analyze biochemical parameters. Storage study was also conducted at ambient temperature 28^0 C to 30^0 C and humidity 65 per cent in gunny bags over a period of 3 months in fishmeal godown. All biochemical parameters of fish meal such as moisture, fat, crude protein, TVB-N, dry matter, ash and acid insoluble ash were estimated and compared with I.S.I. specifications. The overall quality of locally produced fishmeal was inferior and do not meet the I.S.I. specifications.

Key words : Fishmeal, Biochemical analysis, Storage characteristics

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INTRODUCTION

Fishmeal is dried powder obtained by drying either whole fish or shell fish and pulverized into fine powder to which no any substances are added. This fishmeal is basically used for poultry and animal feed formulation. There are two principal methods of fishmeal production namely, wet reduction and dry reduction method (Stansby, 1963; Govindan, 1985).

In wet reduction process the raw material is cooked by steam, pressed, press liquor is then centrifuged to remove oil and the press cake is dried and then ground into powder form. This technique is preferably used for fatty fish like sardine, mackerel, herring, etc. (Pigott and Tucker, 1993). While in case of dry reduction method, fishmeal production is principally applied to conversion of fish or fish offal of non oily type, such as cod, haddock, filleting waste or carcasses of shark or grey fish. It is a batch process and easier to manipulate than wet reduction process. In India, the fishmeal industry is being developed very much in small scale or unorganized sector. Small size fishes such as golden anchovy, jew fish, lizard fish, sole fish, Bombay duck, squilla, mackerel, sardine, etc. obtained as by catch from shrimp trawler and purse seining are often dried in the sun by spreading along the beaches. These partially sun dried fishes are sold as raw material for fishmeal production. The practice usually followed for fishmeal production in Ratnagiri is greatly similar to dry reduction process. Drying is mainly done in the sun and temperature is not more than 45^0 C. Some time the drying of fish is done on roadside, sandy beaches or laterite hard rocks and very rarely on bamboo scaffoldings, wooden platform, plastic mats, improved land, R.C.C. platforms etc., are used for drying purpose. The quality of fishmeal is assessed by various biochemical parameters like moisture, fat, protein, ash, sand, TVB-N. These parameters of fishmeal produced in Ratnagiri are compared with ISI specification for fishmeal as live stock ingredients (Table A).

Table A : The Indian standards specification for fishmeal as livestock feed Ingredient (I.S.I.,1984)

Sr. No.	Requirement for fish meal as live stock feed ingredient		
	Characteristics	Grade – I (%)	Grade – II (%)
1.	Moisture	10.0	10.0
2.	Crude protein	60.0	50.0
3.	Crude fat	12.0	12.0
4.	Acid in soluble ash	3.0	5.0
5.	Chlorine	4.0	5.0