

PRACTICE ABSTRACT n° 37

Authors: Margaret Masette, Samuel Edgar Tinyiro, Davis Akullo, Fred Wanda and Cassius Aruho – NARO

Milling – Fish powder from carcasses

Milling or grinding is an important step in fish processing because it improves the quality and efficiency of a fish product. It also improves the digestibility, acceptability and bulk density of the ingredients. Processing of aquatic products is associated with a large amount of waste products like fish heads and bone account for about 45% of waste. A novel milled fish product was developed from Nile Tilapia and African Catfish carcasses.

By-products were separated into respective components (parts). The belly-flaps and all fatty material were removed from carcasses and washed with potable water at room temperature. Steaming was done at 80 °C for 15 minutes to inactivate enzymes and spoilage organisms and decrease the fat content. Oven drying was done at 60°C until brittle ($\leq 10\%$ moisture content). The content was crashed using a hammer mill made from food grade materials with a sieve mesh size of 0.5mm. This powder was incorporated in maize grits in combination with other spices for the production of an extruded snack.



Processing of powder from fish bones by milling

Table: Micronutrient composition of fish powder

Product/Nutrient composition	g/100g (%)			mg/kg (ppm)		
	Protein	P	Ca	Fe	Zn	Se
Fish powder from carcasses	12.96±1.2	9.31±1.5	17.4±2.8	71.91±3.1	45.15±1.8	1.25±0.2

The developed fish powder was rich in Calcium, Iron and Zinc. This will help to enrich the diets of the consumers with these essential micronutrients. The utilization of fish carcasses will reduce the burden of disposal of processing waste by turning it into value added products.