

## COMPOSITION OF SILAGE-RICE BRAN MIXTURE

COMPONENT	PERCENTAGE
Protein	24-26%
Ash	14-18%
Fat	1-2%
Moisture	<10%

Prepared by:

Venkateshwarlu Ronda  
Visnuvinayagam S.

Designed by:  
Natasha Nayak



*For further information please contact:*

*The Director,*  
Central Institute of Fisheries Technology,  
CIFT Junction, Matsyapuri P.O.,  
Willingdon Island, Cochin 682029  
Kerala India

Phone: 91 (0) 484-2666845  
Fax: 91 (0) 484-2668212  
Email: [cift@ciftmail.org](mailto:cift@ciftmail.org)

# Fish Silage



## PROCEDURE TO MAKE FISH SILAGE:

Collect all waste into one place

Chop into small pieces and mix well.

Add formic acid at the rate of 30-35ml for per kg of waste

Mix well to incorporate acid into the mass

Cover it and leave for 2-7 days.

Mix intermittently to aid in liquefaction.

Processing of fish and shell fish generates 40-60 % of raw material as waste. This includes bones, skin, scrapings, head etc., and is rich in proteins and minerals. Sometimes fish is available in excess which is not suitable for human consumption and facilities for converting into fish meal are not available. If not processed properly, it creates problems of waste disposal and environmental pollution. These wastes can be converted into silage or organic manure. Fish silage is a product made from whole fish or parts of the fish to which no other material has been added other than an acid and in which liquefaction of the fish is brought about by enzymes already present in the fish..

The product is a stable liquid with a malty odour which has very good storage characteristics and contains all the water present in the original material. It is a simple process and it requires little capital equipment particularly if non oily fish are used. If fatty fish are used separation of oil may be required. Silage can be mixed with rice bran in 2:1 proportion to bring it to semi-solid consistency and can be sun-dried to a moisture level below 10 %. Any type of fish can be used for making silage.

## Advantages of Silage Making

- ✦ Safe way of waste disposal
- ✦ Waste can be converted into valuable product
- ✦ Requires very less capital investment
- ✦ Specially trained personnel are not required
- ✦ Makes transportation easy

## Uses Of Silage Rice Bran Mixture

- ❖ Good protein supplement in the place of fishmeal
- ❖ It can be used for poultry, quail, pig, cattle and fish feed formulations
- ❖ Fat content is low and hence oxidative rancidity will not develop
- ❖ Protein is partially digested and is better absorbed by the animal
- ❖ Vitamins, minerals, pigments and micronutrients present in raw material are not destroyed



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