



TBS/AFDC 09 (5549) P3

DRAFT TANZANIA STANDARD

Fish meal as animal feed – Specification

DRAFT STANDARD FOR COMMENTS ONLY

TANZANIA BUREAU OF STANDARDS

0 FOREWORD

Fish meal is a rich source of high-quality protein and contains Calcium and Phosphorus. Since the fish meal available in the country shows wide variations in its quality, it is felt that formulation of this standard would ensure production of fish meal of a uniform quality for use in the manufacture of animal feeds.

In the preparation of this Tanzania Standard substantial assistance was drawn from

IS 4307:1973 – Specification for fish meal as livestock feed published by Indian Standards Institution.

MS 227:1981 – Specification for fish meal published Standards and Industrial Research Institute of Malaysia.

In reporting the results of a test or analysis made in accordance with this Tanzania Standard, if the final value observed or calculated is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

1.0 SCOPE

This Tanzania Standard prescribes the requirements, methods of sampling and test for fish meal as animal feed.

2.0 REFERENCES

The following referenced standards are indispensable for the application of this draft standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced standard (including any amendments) applies.

TZS 4, Rounding off numerical values.

TZS 34-1, Animal feeds and feeding stuffs – Sampling and test methods – Part 1: General.

TZS 34-2, Animal feeds and feeding stuffs – Sampling and test methods – Part 2: Minerals and trace elements.

TZS 34-3, Animal feeds and feeding stuffs – Sampling and test methods – Part 3: Microbiological

TZS 538, Labelling of pre-packaged foods — General requirements

ISO 6579-1 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella spp.*

ISO 16654 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Escherichia coli*

3.0 TERMS AND DEFINITIONS

For the purpose of this draft Tanzania standard, the following terms and definitions shall apply:

fish meal

a product obtained by drying (removing fat where necessary) and grinding whole fish or parts thereof of various nontoxic species to which no other matter has been added.

4.0 GRADES

Fish meal shall be of two grades, namely grade 1 and grade 2 depending upon their chemical composition as shown in Table 1.

5 REQUIREMENTS

General requirements

5.1 Raw material

Fish meal for animal feeding shall be obtained from whole fish and /or parts thereof or from dried fish of non-toxic species.

5.2 Preparation

In industrial production, fish meal shall be prepared by cooking the raw material or by heat treating the dried fish, pressing the cooked mass, drying, and pulverizing the treated material to the required mesh size.

5.3 product

5.3.1 The material shall have the characteristic odour of fish and shall be free from any odour indicative of spoilage including rancidity.

5.3.2 The material shall be free from adulterants, arthropod infestation, visible fungal growth and any harmful material.

5.4 Specific requirements

The material shall also conform to the requirements prescribed in the Table.

Table 1: Requirements for fish meal as animal feed.

S/No.	Characteristics	Requirements		Method of test (see clause 2)
		Grade 1	Grade 2	
1	Moisture, <i>percent by mass</i> , max	10	10	TZS 34-1
2	Crude protein <i>percent by mass</i> , min	60	50	TZS 34-1
3	Ammoniacal nitrogen <i>percent by mass</i> , max	0.5	0.5	TZS 34-1
4	Crude fat, <i>percent by mass</i> , max	10	10	TZS 34-1
5	Acid insoluble ash, <i>percent by</i>	3	5	TZS 34-1

	<i>mass, max</i>			
6	Chloride (as NaCl) <i>percent by mass, max</i>	3	4	TZS 34-2

NOTE – Requirements for characteristics (2) to (5) are on moisture free basis.

5 HYGIENE

5.1 The product shall be prepared under strict hygienic conditions according to TZS 109 (see clause 2).

5.2 Fish meal shall comply with microbiological limits as shown in Table 2;

Table 2: Status for microbiological tolerance in animal feeds

S/No.	Microorganism	Status	Test method
1.	<i>Salmonella spp</i>	Absent	ISO 6579-1
2.	<i>Escherichia. coli</i>	Absent	ISO 16654

6.0 SAMPLING AND TESTS

6.1 Sampling

For the purpose of this standard, sampling shall be done in accordance with TZS 34-1, 34 -2 and 34-3 (see clause 2).

6.2 Tests

Testing of fish meal for animal feeding shall be done according to test methods prescribed in Table 1 and Table 2.

7.0 PACKAGING AND MARKING

7.1 Packaging

Fish meal for animal feeding shall be packed in clean paper bags with or without polyethylene lining or other suitable containers capable of protecting the product. The mouth of each bag shall be either machine-stitched or rolled over and hand stitched.

7.2 Marking

7.2.1 Fish meal containers shall be marked and labelled in accordance with TZS 538 (see clause 2). In addition, each container shall be legibly and indelibly marked with the following information:

- a) Name and grade of the material;
- b) Name and address of the manufacturer;
- c) Batch or code number;
- d) Date of production;
- e) Net mass in metric unit;
- f) Expiry date;
- g) Country of origin;
- h) Guaranteed analysis

8.3 The container may also be marked with TBS Certification Mark.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the licenses are granted may be obtained from TBS.

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