

# KENYA STANDARD

## **Compounded Catfish Feeds: Specification**

### **Part 1.complete feed**

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The following organizations were represented on the Technical Committee:

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Department of Veterinary Services  
Ministry of Fisheries Development — Department of Fisheries  
Kenya Marine and Fisheries Research Institute  
Unga Farm Care EA Ltd.  
Economy Farm Ltd  
Modern Ways Ltd.  
Government chemist  
Consumer Information Network  
Kenya Agricultural Research Institute (KARI)  
Proctor and Allan EA Ltd.  
AKEFEMA-Association of Kenya Feed Manufacturers  
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## REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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## Compounded Catfish Feeds: Specification

### Part 1.complete feed

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## P R E F A C E

This Kenya Standard was prepared by the Technical Committee on Animal Feeds under the guidance of the Standards Project Committee and it is in accordance with the procedures of the Bureau.

Commercial compounded feeds for intensive fish culture have been developed in a few industrialized countries with a long history of aquaculture.

Much of the present day information and data on fish feeds is based on nutritional and diet development work carried out on cold water species of fish in those countries. The development of this standard is geared to the need for developing suitable fish feeds based on locally available ingredients while ensuring that such diets provide a suitable energy source and are balanced for catfish to facilitate fast growth. Such feeds must not only be acceptable, available and easily digestible by the fish, but should be of a chemical composition that will encourage fast growth, good conversion and survival.

Though it is recognized that there still exists many gaps in our knowledge concerning the nutrition of most fish species cultured in the tropics, some progress has been made with regard to specific diets for species such as tilapia fish. The standard should encourage local production of formulated fish feeds which are of acceptable quality.

In the preparation of this standard, assistance was derived from the following documents:

Acknowledgement is hereby made for the assistance derived from the above sources.

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**KENYA STANDARD**

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**Compounded Catfish Feeds: Specification**  
**Part 1.complete feed****1. SCOPE**

This Standard prescribes requirements for compounded catfish feeds used as a complete feed and serving as the only source of nutrients for catfish.

**1.2 Field of Application**

This standard shall apply to feeds for the following categories of catfish.

- (a) Starter
- (b) Grower
- (c) Finisher
- (d) Brooder

**2. DEFINITIONS**

For the purpose of this standard, the following definitions shall apply:

**2.1 Catfish**— Any fish of the order silvaifoames.

**2.1.1 Starter**—small fry and fingerlings.

**2.1.2 Grower**—fish between 50-250gms.

**2.1.3 Finisher** --- fish which are more than 250gms and which are not reared for breeding.

**2.1.4 Brooder** ---- catfish where males are more than 80gms and females are more than 50gms in weight reared for breeding.

**2.2 Palatable** — Of reasonable hardness and free of compounds that are offensive to the olfactory receptors of the fish.

**2.3 Feedable** — Water stable (resistant to sudden crumbling).

**2.4 Crumbles**— pellets that have been reduced into granular form

**2.5 pellets**— Feed formed by compacting and forcing through die openings by a mechanical process

**2.6 Fines** — Any materials that pass through a screen whose openings are

immediately smaller than the specified minimum particle size.

### 3. GENERAL REQUIREMENTS

3.1 Compounded catfish feeds shall be in the form of crumbles and pellets.

3.2 The feeds shall be free from pathogenic microbes, metallic objects and pesticide residues.

3.3 The feeds shall be palatable and feedable.

3.4 The feeds shall be free from mouldy growth and rancidity which is indicative of spoilage.

3.5 For all the different types of feeds, the total content of 'fines' shall not exceed 5 per cent by weight.

3.6 Total aflatoxin content shall not be more than 10 ppb and 5ppb for B<sub>1</sub>

### 4 NUTRIENT REQUIREMENTS

Compounded complete feeds for catfish shall comply with the compositional requirements specified in Table 1

The feeds shall contain vitamins and minerals specified in Table 2.

Table 1: Requirements for catfish fingerlings/growers Commercial feeds(complete feed) .

	<b>Catfish fingerlings: (Starter diet)</b>	<b>Catfish growers' (grower diet)</b>	<b>Finisher diet</b>	<b>Brooder diet</b>
1. Weight in grammes	1-49	50-250	250-market size	≥50 females ≥80 males
2. Feeding rate% body weight	6 – 8	3	2-4	4-6
3. Crude protein %(min)	45	35	30	30
4. Energy DEKcal/Kg(Min)	3000	3000	3000	3000
5. Amino acid levels (a) Lysine g/kg (min)	1.4	1.4	1.4	1.4
(b) Methionine g/kg (min)	0.6	0.6	0.6	0.6
6. Crude fiber% (max)	4	6	6	6
7. Crude Fat %	4-6	4-6	4-6	4-6

8. Pellet size(mm)	2 (max)	2 – 5	4-6	2-5
9. Moisture content of pellets.( %Max)	10	10	10	10
10. Calcium%(Max)	0.5	0.5	0.5	0.5
11. Phosphorus%	0.5	0.5	0.5	0.5

TABLE 2. LEVEL OF MINERALS AND VITAMINS IN COMPOUNDED CATFISH FEEDS (COMPLETE FEED)

<b>MINERALS and VITAMINS</b> mg/kg (dry basis) amount per kg of feed	<b>(Starter diet)</b>	<b>(Grower diet)</b>	<b>Finisher diet</b>	<b>(Brooder diet)</b>
Copper(min)mg/Kg	4.8	4.8	4.8	4.8
Zinc(min)mg/Kg	20	20	20	20
Manganese(min)mg/Kg	2.4	2.4	2.4	2.4
Iron(min)mg/Kg	20	20	20	20
Vitamin A (min.)IU/Kg	900	900	900	900
Vitamin D(min.)IU/Kg	220	220	220	220
Choline(min)mg/Kg	400	400	400	400
Vitamin E(min)mg/Kg	23	23	23	23
Niacin(min)mg/kg	14	14	14	14
Riboflavin (min)mg/Kg	9	9	9	9
Pyridoxine (min)mg/Kg	3	3	3	3
Pantothenic	15	15	15	15

(min)mg/Kg				
Ascorbic acid (min.)	60	60	60	60
Thiamine(min)mg/Kg	1	1	1	1

## 5. PACKAGING AND LABELLING

**5.1 Packaging** — the feeds shall be packed and supplied in airtight and suitable weather-resistant material. e.g. laminated bags

**5.1.1** Each package for catfish feeds shall be clean and free from visible indications of contamination, infection and insect infestation.

**5.2 Labelling** — The packages shall be securely closed and marked with the following information:

- (i) Name of product;
- (ii) Category of fish for which it is intended;
- (iii) Form e.g. Pellet, crumble or mash
- (iv) Net weight of the product;
- (v) Batch number;
- (vi) Name and physical address of the manufacturer;
- (vii) Date of manufacture
- (viii) Date of Expiry
- (xi) Instructions for use and storage



- (x) Nutrition declaration
- (xi) Feeding rate shall be displayed in grams /day.

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