

# **Dairy cattle feed premix — Specification**

## **DKS 2500: 2021**

### **TECHNICAL COMMITTEE REPRESENTATION**

The following organizations were represented on the Technical Committee:

Ministry of Agriculture Livestock and Fisheries — Directorate of Livestock Production  
Directorate of Veterinary Services  
Kenyatta University — Department of Animal Science  
Kenya Agricultural and Livestock Research Organization (KALRO)  
Kenya Industrial Research and Development Institute (KIRDI)  
National Public Health Laboratories  
Unga Farm Care E.A. Ltd.  
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Modern Ways Ltd.  
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Animix Ltd  
Consumer Information Network  
Association of Kenya Feed Manufacturers — AKEFEMA  
Government Chemist's Department  
Pioneer Feeds Ltd.  
Pembe Feeds  
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# **DKS 2500: 2021**

## **Foreword**

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

Animal mineral and vitamin requirements vary from herd to herd and group to group depending on physiological status and seasonality. Appropriate levels of vitamins and minerals impact energy and fat metabolism, immunity, health and lameness, feed intake and animal productivity. Many factors influence vitamin and mineral availability and utilization.

The animal feed manufacturing industry in Kenya has continued to utilize animal premixes that are either imported whole (ready for use) or locally re-constituted in our factories without clear guidelines on specifications on nutrient requirements for the premixes. In view of the above, it has become necessary to develop standards for animal feed premixes for use in compounding animal feeds in Kenya. It is expected that such an attempt could facilitate increased trade volumes as well as create a vibrant and competitive animal feed manufacturing industry in the region.

During the preparation of this standard, reference was made to the following document:

KS EAS 75: 2019, Cattle feed supplements — Specification.

Acknowledgement is hereby made for the assistance derived from this source.

## Dairy cattle feed premix — Specification

### 1 Scope

This Kenya Standard specifies requirements for compounded dairy cattle feed premix used in animal feeds.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6497, *Animal feeding stuffs — Sampling*

ISO 13903, *Animal feeding stuffs — Determination of amino acids content*

ISO 14565, *Animal feeding stuffs — Determination of vitamin A content — Method using high-performance liquid chromatography*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **premix**

is a concentrated mixture of vitamins, trace minerals and diluents. It may contain other feed additives such as amino acids or medicaments

#### 3.2

##### **compound feeds**

is a mixture of feedstuffs blended from various raw materials and additives as a concentrate that provides part of the ration (energy, protein, trace elements) for dairy cattle

### 4 Requirements

#### 4.1 Description

Premix shall be a fine powder, granular or liquid concentrate.

#### 4.2 Quality requirements

**4.2.1** The premix shall be free from harmful constituents, metallic objects, adulterants, moulds, pathogenic micro-organisms or insect infestation and free from fermented, musty, rancid or uncharacteristic odour.

**4.2.2** The animal feed premix shall contain levels of nutrients as stipulated in Table 1.

**Table 1 Minimum levels of Trace Minerals in dairy cattle feed premix**

SL No	Nutrients	Requirements	Test method
i)	Manganese (min.)	20,000 mg/kg	AOAC <sup>a</sup>
ii)	Zinc (min.)	40,000 mg/kg	
iii)	Cobalt (min.)	100 mg/kg	
iv)	Copper (min.)	10,000 mg/kg	
v)	Iodine (min.)	800 mg/kg	
vi)	Selenium (min.)	10 mg/kg	
<p>a Association of Official Analytical Chemists Methods.</p> <p>NOTE 1 The above levels must be attained by inclusion at 1 kg per metric tonne of feed. Premixes labelled at different inclusion rate must contain a pro rata level of nutrient.</p> <p>NOTE 2 Vitamin B<sub>12</sub> may substitute cobalt at a minimum rate of 3000 µg/kg to represent 100 mg/kg of cobalt with no upper limit.</p>			

## 5 Packaging and labelling

### 5.1 Packaging

**5.1.1** Dairy cattle feed premix for sale shall be packed in containers which are of sufficient strength and sufficiently sealed so as to withstand reasonable handling without tearing, bursting or falling open during normal handling and transportation.

**5.1.2** Each container for feed premix 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 animals for which it is intended;
- iii) Net weight of the product;
- iv) Batch number;
- v) Name and physical address of the manufacturer;
- vi) Date of manufacture and expiry;
- vii) Nutrient declaration;
- viii) Instructions for use and storage.

## 6 Sampling

Representative samples shall be drawn in accordance with ISO 6497.

ANNEX I  
(Informative)

**Recommended Minimum Vitamin levels in dairy cattle feed premix**

SL No	Nutrients	Requirements	Test method
i)	Vitamin D (IU/kg) (min.)	1,000,000 IU	AOAC <sup>a</sup>
ii)	Vitamin A (IU/kg) (min.)	6,000,000 IU	
iii)	Vitamin E (IU/kg) (min.)	18,000 IU	
a Association of Official Analytical Chemists Methods.			
NOTE 3 The above levels must be attained by inclusion at 1 kg per metric tonne of feed. Premixes labelled at different inclusion rate must contain a pro rata level of nutrient.			