Pig feed premixes- Specification

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TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

1. Ministry of Agriculture, Livestock, and Fisheries — Department of Livestock Production
2. Kenya Agricultural Research Institute (KARI)
3. Unga Farm Care EA Ltd.
4. Modern Ways Ltd.
5. Consumer Information Network
6. Department of Veterinary Services
7. AKEFEMA—Association of Kenya Feed Manufacturers
8. Government Chemist department
9. Pioneer Feeds Ltd
10. Nutrimix (K) Ltd
11. Pembe Flour Mills
12. Eaglevet (K) Ltd
13. Joeliz Bone Meal Ltd.
14. Proctor and Allan (EA) Ltd
15. Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

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KENYA STANDARD
Pig feed premixes - Specification

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Foreword

This Kenya Standard was prepared by the 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 statuses 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 Kenya Standard, reference was made to the following publications:

KSEAS- 55 :2011 Pig feeds -Specification

The assistance received from these sources is acknowledged with thanks.
Pig feed premixes - Specification

1. Scope
This Kenya Standard covers the specification for pig feed premixes.

2. Definitions
For the purpose of this standard, the following definitions apply:

2.1. premix
Concentrated mixture of vitamins, trace minerals and diluents. It may contain other feed additives such as amino acids or medicaments.

2.2. categories of pigs

2.2.1. piglets
Young pigs up to 8 weeks of age.

2.2.2. porkers
Pigs especially bred and kept for pork production, and have a live weight of not more than 55 kg.

2.2.3. baconers
Pigs especially kept for production of bacon, and have a live weight of 55 kg to 100 kg.

2.2.4. gilts
Young female breeding pigs which have not farrowed.

2.2.5. sows
Female pigs which have farrowed at least once.

2.2.6. boars
Male breeding pigs.

2.2.7. heavy hogs
Pigs which have a live weight of not less than 100 kg.

2.3. pig rations

2.3.1. pig creep-feed
Feed suitable for piglets up to normal weaning age of eight weeks of age and weighing up to 20 kg body weight.

2.3.2. 2
pig grower feed
feed intended for growing pigs from approximately eight weeks until they have reached a body weight of approximately 55 kg

2.3.3.  
pig finishing feed
feed intended and suitable for fattening pigs weighing over 55 kg body weight and are intended for slaughter

2.3.4.  
pig breeder feed (sow and weaner feed)
feed intended for breeding pigs of both sexes and of more than 55 kg body weight

3. Requirements

3.1. Description —Premixes shall be a fine powder, granular or liquid concentrate.

3.2. The Premix shall be free from harmful constituents, metallic objects, adulterants, moulds, pathogenic micro-organisms or pest infestation and free from fermented, musty, rancid or uncharacteristic odour.

3.3. The pig feed premix shall contain the following nutrients.

Table 1—minimum levels of minerals and vitamins in pig feed premixes

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Parameter</th>
<th>Creep feed</th>
<th>Grower feed</th>
<th>Finishing feed</th>
<th>Breeder feed</th>
<th>Method of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Selenium, mg/kg</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>AOAC 996.16</td>
</tr>
<tr>
<td>ii)</td>
<td>Manganese, mg/kg</td>
<td>30000</td>
<td>30000</td>
<td>20000</td>
<td>20000</td>
<td>ISO 27085</td>
</tr>
<tr>
<td>iii)</td>
<td>Iodine, mg/kg</td>
<td>1000</td>
<td>500</td>
<td>50000</td>
<td>100</td>
<td>AOAC 935.14</td>
</tr>
<tr>
<td>iv)</td>
<td>Zinc, mg/kg</td>
<td>50000</td>
<td>100000</td>
<td>100000</td>
<td>100000</td>
<td>ISO 27085</td>
</tr>
<tr>
<td>v)</td>
<td>Iron, mg/kg</td>
<td>100000</td>
<td>800000</td>
<td>125000</td>
<td>800000</td>
<td>ISO 27085</td>
</tr>
<tr>
<td>vi)</td>
<td>Copper, mg/kg</td>
<td>200000</td>
<td>140000</td>
<td>200000</td>
<td>200000</td>
<td>ISO 27085</td>
</tr>
<tr>
<td>vii)</td>
<td>Cobalt, mg/kg</td>
<td>5000</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>ISO 27085</td>
</tr>
<tr>
<td>viii)</td>
<td>Vitamin A, IU/kg</td>
<td>100000000</td>
<td>100000000</td>
<td>80000000</td>
<td>120000000</td>
<td>ISO 14565</td>
</tr>
<tr>
<td>ix)</td>
<td>Vitamin B1 (thiamine), mg/kg</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>AOAC 942.23</td>
</tr>
<tr>
<td>x)</td>
<td>Vitamin B2 (riboflavin), mg/kg</td>
<td>15000</td>
<td>5000</td>
<td>5000</td>
<td>5000</td>
<td>AOAC 970.65</td>
</tr>
<tr>
<td>xi)</td>
<td>Vitamin B3 (niacin), mg/kg</td>
<td>15000</td>
<td>15000</td>
<td>15000</td>
<td>15000</td>
<td>AOAC 961.14</td>
</tr>
<tr>
<td>xii)</td>
<td>Vitamin B5 (pantothenate), mg/kg</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
<td>AOAC 945.74</td>
</tr>
<tr>
<td>xiii)</td>
<td>Vitamin B6 (pyridoxine), mg/kg</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>AOAC 961.15</td>
</tr>
<tr>
<td>xiv)</td>
<td>Vitamin B7 (biotin), mg/kg</td>
<td>500</td>
<td>500</td>
<td>5000</td>
<td>50000</td>
<td>AOAC</td>
</tr>
<tr>
<td>xv)</td>
<td>Vitamin B9 (folic acid), mg/kg</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1000</td>
<td>AOAC 944.12</td>
</tr>
<tr>
<td>xvi)</td>
<td>Vitamin B12 (cobalamin), mg/kg</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>AOAC 952.20</td>
</tr>
<tr>
<td>xvii)</td>
<td>Vitamin D₃, IU/kg</td>
<td>20000000</td>
<td>20000000</td>
<td>16000000</td>
<td>24000000</td>
<td>AOAC</td>
</tr>
<tr>
<td>xviii)</td>
<td>Vitamin E, IU/kg</td>
<td>10000</td>
<td>10000</td>
<td>5000</td>
<td>20000</td>
<td>ISO 6867</td>
</tr>
<tr>
<td>xix)</td>
<td>Vitamin K, mg/kg</td>
<td>2000</td>
<td>2000</td>
<td>1000</td>
<td>3000</td>
<td>AOAC 974.30</td>
</tr>
<tr>
<td>xx)</td>
<td>Antioxidant (BHT)³, mg/kg</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>AOAC 968.17</td>
</tr>
</tbody>
</table>

Note: The above levels must be attained by inclusion at 1kg of premix per metric tonne of feed. Premixes labelled at different inclusion rate must contain a pro rata level of nutrient.
4. Packaging and labelling

4.1. Packaging

4.1.1. Pig feed premixes 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.

4.1.2. Each container for feed premixes shall be clean and free from visible indications of contamination, infection and insect infestation.

4.2. 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

5. Sampling

For the purpose of determining compliance with this standard, samples of pig feed premixes shall be collected from the market or elsewhere and shall be required to comply with all the requirements of this Kenya Standard.