



DRAFT TANZANIA STANDARD

Pig feed premixes – Specification

PUBLIC COMMENTS

0 FOREWORD

This Tanzania standard aimed to control safety and quality of pig feed premixes produced or traded in the country for compounding pig feeds. The standard will facilitate increased trade volumes as well as creating a vibrant and competitive animal feed manufacturing industry in the country.

In preparation of this Tanzania standard considerable assistance was derived from KS 2540:2014, *Pig feed premixes – specification* published by the Kenya Bureau of Standards.

In reporting the results of a test or analysis made in accordance with this 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 draft Tanzania standard specifies requirements, methods of sampling and test for pig feed premixes used as animal feed.

2.0 References

For the purpose of this draft Tanzania Standard, the following references shall apply. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

TZS 4 – Rounding off numerical values.

TZS 34-1 – Animal feeds and feeding stuffs – Part 1 Sampling and general methods.

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

TZS 76 – General method for determination of Arsenic silver diethyldithiocarmate photometric method.

TZS 109 – Food Processing units – code of hygiene – General.

TZS 268 – General atomic absorption spectrophotometric method for determination of lead in food stuffs

TZS 538:1999 – Packaging and labeling of foods

TZS 821 – Animal feeds and feeding stuffs – Preparation of test samples.

ISO 6867 – Animal feeding stuffs -- Determination of vitamin E content -- Method using high-performance liquid chromatography

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

AOAC 944.12 - Folic acid (pteroyl glutamic acid) in vitamin preparations. Microbiological methods

AOAC 945.74 - Pantothenic Acid in Vitamin Preparations - Microbiological Methods

AOAC 961.14 - Niacin and Niacinamide in Drugs, Foods, and Feeds - Colorimetric Method

AOAC 968.17 - Butylated hydroxy anisole and butylated hydroxytoluene in cereals. Gas chromatographic method

AOAC 970.65 - Riboflavin (Vitamin B2) in Foods and Vitamin Preparations

AOAC 974.30 - Menadione Sodium Bisulfite (Water-Soluble Vitamin K3) in Feed Premixes - Gas Chromatographic Method

AOAC 996.16 – Selenium in Feeds and Premixes.

AOAC 2006.03 – Arsenic, Cadmium, Cobalt, Chromium, Lead, Molybdenum, Nickel, and selenium in fertilizers

AOAC952.20-1960 Cobalamin (Vitamin B12 Activity) in Vitamin Preparations – Microbiological Methods

3.0 Terms and definitions

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

3.1 premix

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

3.2 pig creep-feed

feed suitable for piglets up to weaning and weighing up to 20 kg body weight

3.3 pig grower feed

feed intended for growing pigs from approximately eight weeks until they have reached a body weight of approximately 55 kg

3.4 pig finishing feed

feed intended and suitable for fattening pigs weighing over 55 kg body weight and are intended for slaughter

3.5 pig breeder feed

feed intended for breeding pigs of both sexes and of more than 55 kg body weight

3.6 sow

female pig which have farrowed at least once

3.7 diluents

inorganic substances used to dilute vitamins and trace (micro) minerals during manufacturing pig feed premixes

4.0 Requirements

4.1 General requirements

4.1.1 Premixes shall be a fine powder, granular or liquid concentrate.

4.1.2 Pig feed premixes shall be free from harmful constituents, metallic objects, adulterants, moulds, pathogenic microorganisms or pest infestation and free from fermentation, mustiness, rancidity or uncharacteristic odour.

4.2 Specific requirements

The pig feed premixes shall contain the nutrients specified in Table 1.

Table 1: Microminerals, antioxidants and vitamins requirements

S/No.	Parameter	Creep feed	Grower feed	Finisher feed	Breeder feed	Method of test
		Min	Min	Min	Min	
1)	Selenium, mg/kg	200	200	200	200	AOAC 996.16
2)	Manganese, mg/kg	30000	30000	20000	20000	TZS 34-2
3)	Iodine, mg/kg	1000	500	500	1000	TZS 34-2
4)	Zinc, mg/kg	50000	100000	100000	100000	TZS 34-2
5)	Iron, mg/kg	100000	80000	125000	80000	TZS 34-2
6)	Copper, mg/kg	200000	14000	20000	20000	TZS 34-2
7)	Cobalt, mg/kg	5000	300	300	300	TZS 34-2
8)	Vitamin A, IU/kg	10000000	10000000	8000000	12000000	ISO 14565
9)	Vitamin B2 (riboflavin), mg/kg	15000	5000	5000	5000	AOAC 970.65
10)	Vitamin B3 (niacin), mg/kg	15000	15000	15000	15000	AOAC 961.14
11)	Vitamin B5 (pantothenate), mg/kg	10000	10000	10000	10000	AOAC 945.74
14)	Vitamin B12 (cobalamin), mg/kg	10	10	10	10	AOAC 952.20
16)	Vitamin E, IU/kg	10000	10000	5000	20000	ISO 6867
17)	Vitamin K, mg/kg	2000	2000	1000	3000	AOAC 974.30
18)	Antioxidant (BHT)3, mg/kg	125	125	125	125	AOAC 968.17

5.0 CONTAMINANTS

The products covered by this standard shall comply with the maximum limits for heavy metals specified in Table 2.

Table 2: Heavy metal limits

S/No	Heavy metal	Maximum Limits (mg/kg)	Test Method (see clause 2)
1)	Mercury (Hg)	0.1	AOAC 2006.03
2)	Lead (Pb)	15	TZS 268
3)	Arsenic (As)	10	TZS 76
4)	Cadmium (Cd)	10	AOAC 2006.03

6.0 HYGIENE

The product shall be prepared under strict hygienic conditions according to TZS 109 and TZS 821(see clause 2).

7.0 SAMPLING AND TESTS

7.1 Sampling

Sampling of the product covered under this standard shall be done according to TZS 34-1 and test samples shall be prepared in accordance to TZS 821 (see clause 2).

7.2 Tests

Testing of this product shall be done according to test methods prescribed in Table 1 and 2 (see clause 2).

8.0 PACKAGING, MARKING AND LABELLING

8.1 Packaging

8.1.1 The material shall be packed in moisture-proof containers, which are of sufficient strength and sufficiently sealed to withstand handling without tearing, bursting or falling open during normal handling and transportation.

8.1.2 The container shall be sound, clean and free from causal agents of infectious diseases and parasites.

8.2 Marking and labelling

8.2.1 In addition to marking and labelling requirements prescribed in TZS 538, pig feed premixes for each container shall be marked to display the following information:

- a) Name of the product "Pig feed premixes";
- b) Category of animals for which it is intended;
- c) Name and physical address of the manufacturer;
- d) Country of origin;
- e) Batch or code number;
- f) Date of manufacture;
- g) Net weight in metric units;
- h) Expiry date;
- i) Directions for use and storage conditions;
- j) List of ingredients

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 licence from TBS. Particulars of conditions under which the licences are granted may be obtained from TBS.