



DRAFT TANZANIA STANDARD

Hatching eggs – Specification

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TANZANIA BUREAU OF STANDARDS

Hatching eggs – Specification

0 FOREWORD

This Tanzania standard was developed due to rapid increase in demand of eggs in Tanzania market. The standard is intended to control safety and quality of eggs produced and traded in the country for hatching.

In the preparation of this Tanzania standard considerable assistance was drawn from TAS 6702:2010 *Hen egg* published by the Thai Agricultural Standard.

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 Tanzania standard specifies requirements, methods of sampling and test for hatching eggs from chicken.

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 – Sampling and test methods – Part 1: General

TZS 122 Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella spp.*

TZS 538 Packaging and labelling of foods.

CAC/RCP 15 Code of hygienic practice for eggs and egg products.

CAC/RCP 1 General Principles of Food Hygiene.

Codex Stan 193 Codex General Standard for Contaminants and Toxins in Food and Feed.

3.0 TERMS AND DEFINITIONS

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

3.1 hatching egg

a fertilized egg produced by a layer hen intended for hatching.

3.2 egg yolk

an inner composition of the egg, round, natural colour and floating in the middle of the egg white.

3.3 egg white

an inner composition of the egg consisting of both the part of firm and viscous liquid surrounding the egg yolk and the part of clear and transparent liquid which surrounds the inner firm white.

3.4 egg grading

the grouping of eggs into lots having similar characteristics as to colour, weight size and quality.

3.5 check

an individual egg which has a damaged outer shell such as broken or cracked shell but its shell membranes are intact with no leakage of its content.

3.6 fresh egg

an egg considered fresh when the egg yolk is still intact and the white is still firm.

3.7 good egg

an egg whose shell is unbroken.

3.8 air cell

an air space in the large end of an egg between the outer and the inner shell membranes.

3.9 egg candling

an initial inspection of the egg shell and its interior quality through visual light.

4.0 REQUIREMENTS

4.1 General requirements

The quality of egg shall be determined by its exterior and interior quality.

4.1.1 Exterior quality:

- a) Oval shape with one large end and a taper end;
- b) The shell colour shall be of the breed characteristic, clean and smooth surface.
- c) The shell shall not be broken or cracked;
- d) Free of visible mold.

4.1.2 Interior quality

- a) Air cell shall be small, the height not more than 0.8 cm and it does not move when the egg is twirled.
- b) For the broken-out egg, the yolk shall not attach to the inner shell. It shall be firm and surrounded by the thick egg white.
- c) The egg shall not be spoiled and free from abnormal odour.
- d) The yolk shall have normal and consistent colour. The egg white shall not be cloudy.
- e) Free of visible mold

4.2 Specific requirements

- 4.2.1** Hatching eggs shall be grouped into three classes namely Grade AA, A and B as prescribed in Table 1.

Table 1: Grading of the hatching eggs

Items	Requirements		
	Grade AA	Grade A	Grade B
1.Shell -Outer shell	-Free from check - Clean, without stain - Smooth surface, free from ridges or rough areas	The same as grade AA.	- Free from check -Clean or may have slightly stained area. -Total scattered stains shall not be more than 1/16 of the shell surface. Localized stain shall be found less than 1/32 of the shell surface and it shall be loosely attached. -The shell surface may have ridges or rough areas.
2. Candling 2.1 Shell	-Clean and free from inner cracks	The same as grade AA.	Free from inner cracks
2.2 Air cell	It shall be in the large end of egg, the height not more than 0.3 cm and it does not move following the twirl.	It shall be in the large end of egg, the height not more than 0.5 cm and it does not move following the twirl.	It shall be in the large end of egg, the height not more than 0.8 cm and it does not move following the twirl.
2.3 Egg white	Blood spots or meat spots are not present	Blood spots or meat spots are not present	Blood spots or meat spots may be present. *
2.4 Egg Yolk	The yolk outline is slightly defined and floats in the middle of the egg. Blood spots or meat spots are not present.	The yolk outline is fairly well defined and approaches the shell more closely. Blood spots or meat spots are not present	The yolk outline is plainly visible and approaches the shell closely. Blood spots or meat spots may be present. *
3. Broken-out egg 3.1 Egg yolk	It is round and of bulging shape located in the middle of the thick egg white. Blood spots or meat spots are not present.	It is round and of bulging shape. Blood spots or meat spots are not present.	The yolk is flattened. Blood spots and meat spots may be present. *
3.2 Egg white	The thick white liquid is firm and round. The	The same as grade AA. The thick white is reasonably firm.	The thick egg white and the thin egg white are not firm, being weak and watery,

	thin white is not enlarged. Blood spots or meat spots are not present		enlarged and watery, enlarged and flattened. Blood spots and meat spots may be present. *
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Note: * The aggregating blood spots and meat spots, which may be present and shall not be more than 0.3 cm in diameter.

4.2.2 Sizing

The size of egg shall be considered by weight of an individual egg (see Table 2). Unless otherwise specified, for commercial purposes the size of eggs shall be as follows:

Table 2: Size of eggs based on weight

S/N.	Size	Minimum weight (g)
1.	Jumbo	70 and above
2.	Extra Large	65 – 70
3.	Large	60 – 65
4.	Medium	55 – 60
5.	Small	50 – 55
6.	Pullet	45 – 50

4.3 Tolerances

Tolerances for each package shall be as follows:

a) Quality tolerances

- i. For grade AA, the minimum number of grade AA shall be 85%. Grade A can be included but not more than 15% of the total number of eggs.
- ii. For grade A, the minimum number of grade A shall be 85%. Grade B can be included but not more than 15% of the total number of eggs.
- iii. For grade B, only the eggs conforming to the requirement for eggs of grade B are allowed.

b) Size tolerances

Eggs of all sizes may include the immediate smaller size not more than 3.4% of the total number of eggs.

- c) Eggs of all grades and sizes shall be free from check except for the one caused by transportation but shall not be more than 5% of the total number of eggs.

5.0 CONTAMINANTS

Hatching eggs shall comply with the requirements for maximum limits for contaminants and Toxins in Food and Feed as established in Codex Stan 193 and the maximum residue limits for pesticides and veterinary drugs established in the respective CAC/MRL 2.

6.0 HYGIENE

6.1 Hatching eggs shall be produced and prepared under strict hygienic conditions according to *CAC/RCP 15 – 1976* and *CAC/RCP 1* (see clause 2).

6.2 On testing, samples for hatching eggs shall not contain *Salmonella* in 25 g of sample according to TZS 122.

7.0 SAMPLING AND TESTS

7.1 Sampling

Sampling for hatching eggs shall be in accordance with TZS 34-1 and test samples shall be prepared in accordance with TZS 821 (see clause 2).

7.2 Tests

Testing of this product shall be done according to test methods prescribed in Tables 1, 3, 4 and 5 in this standard.

8.0 PACKAGING, MARKING AND LABELLING

8.1 Packaging

8.1.1 Chicken eggs for sale shall be packed in cartons or suitable containers that will avoid causing any external or internal damage to the produce. The container shall be clean and not previously used.

8.1.2 Chicken eggs shall be packed either in carton or in cases with their tapered ends facing down.

8.1.3 Carton/Plastic – The packaging material shall be new, standard plastic tray or paper cartons molded to suit the size of grade, each holding 6, 12 or 30 eggs.

8.1.4 Cases – Chicken eggs consisting of thirty dozen or more packed in wooden or fiberboard boxes.

8.2 Marking and labelling

Each container shall delibly and indelibly be marked to display the following information:

- a) Breed and grade of hatching eggs;
- b) Date of production;
- c) Date of expiry;
- d) Number of eggs in a package or its net weight in g or kg;
- e) Name and address of producer, importer and distributor;
- f) Instruction for storage and transportation. The packages shall be labeled as “fragile”.

- g) The language on the label shall be “Kiswahili” or Kiswahili and English. Additional language may be used depending on the designated market.

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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