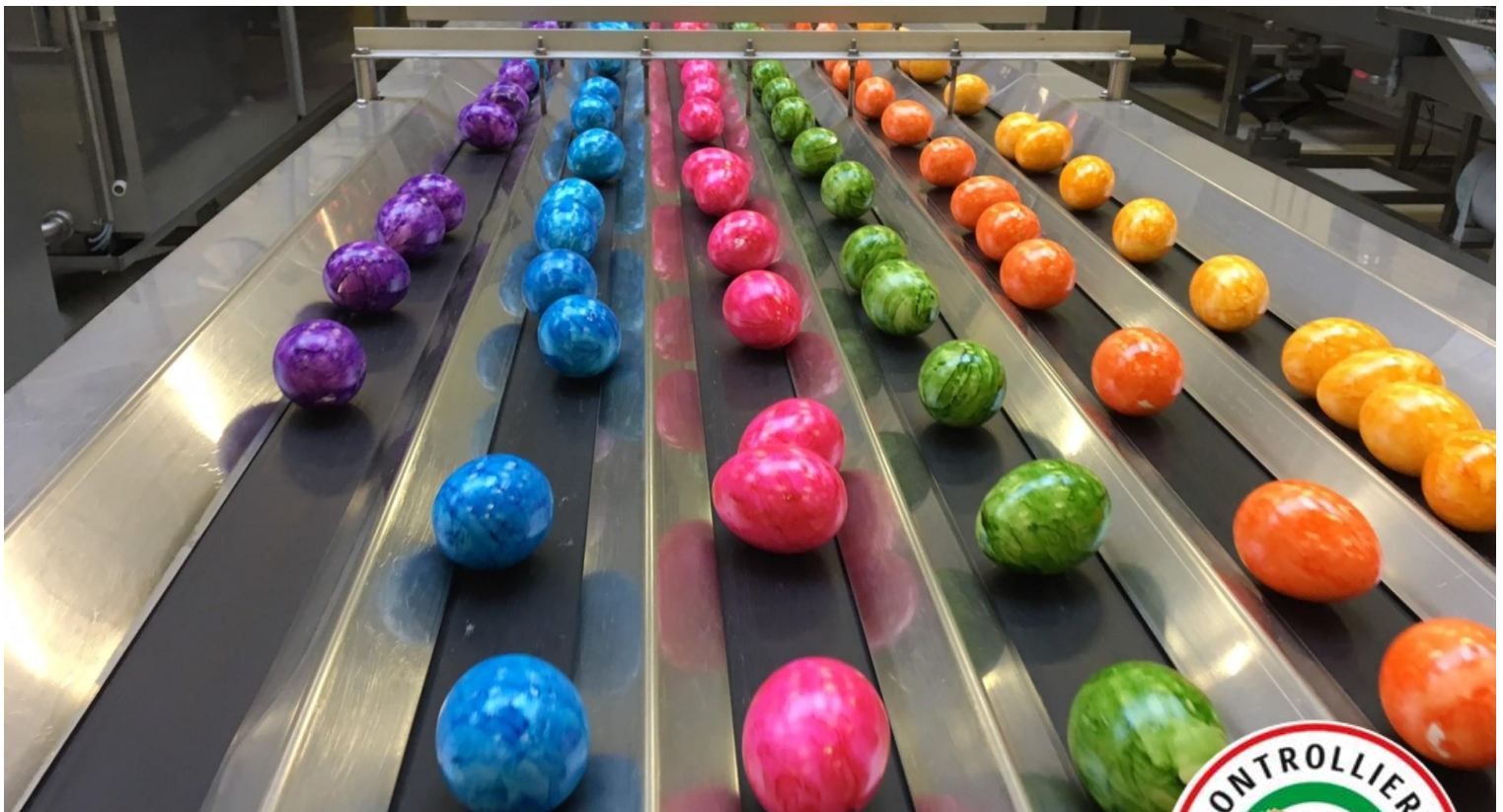


KAT Guide on Coloured Eggs

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KAT – Verein für kontrollierte alternative Tierhaltungsformen e.V.

Konrad-Zuse-Platz 5

53227 Bonn

Germany

Tel. +49 228 95960 0

Fax +49 228 95960 50

Internet www.kat.ec

www.was-steht-auf-dem-ei.de

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Teil I: Basic principles

1 Preamble

The Verein für kontrollierte alternative Tierhaltungsformen e.V. (Association for Controlled Alternative Animal Husbandry, KAT) is the most important inspection body in Germany and neighbouring EU countries for the inspection of eggs from alternative forms of hen keeping (free-range, barn and organic egg production). Virtually all eggs offered for sale on the German food retail market bear the KAT conformity seal. The number of member establishments has grown continually since the association was founded in 1995.

The chief objectives of KAT are:

- to lay down and implement uniform requirements in all EU countries for the barn, free-range and organic keeping of laying hens and for the rearing of male laying hybrids with special regard for animal welfare issues.
- to ensure the complete traceability and assurance of origin of eggs from alternative forms of production in order to eliminate misuse through wrongly labelled goods.
- to provide transparency for the consumer through the www.was-steht-auf-dem-ei.de [What is on the egg?] website.

2 Coloured eggs in the KAT system

This Guide supplements the requirements of the IFS Food Standard specifically with regard to coloured eggs.

Implementation of the requirements of the current IFS Food Standard is presupposed. These requirements are therefore not additionally listed in this Guide.

A valid IFS Food certificate is consequently a prerequisite for participation in the KAT Conformity Assessment Scheme for Coloured Eggs.

For dyeing companies with less than 15 million outgoing eggs per year, the additional requirements for small companies are checked instead of IFS certification.

Only eggs from KAT-certified laying farms may be used in the dyeing process. This is the only way to guarantee assurance of origin across all stages from the laying farm to the coloured egg. Coloured eggs may only be marketed with the mark "Checked by KAT" if a valid certificate of conformity has been issued.

3 Scope of application

This Guide was developed for dyeing plants and applies to all companies that dye and market eggs from approved KAT establishments. The Guide is a tool for the systematic implementation of KAT requirements for the assurance of origin and traceability of KAT eggs and/or finished goods.

4 Definition and statutory requirements

Boiled and dyed eggs – “coloured eggs” – for the purposes of this standard are produced using chicken eggs that comply with the original criteria for quality class A.

As with all foodstuffs, coloured eggs are subject to the general rules applicable under food law. There is no specific legislation. Coloured eggs are also not subject to the marketing standards applicable to eggs.

5 Participation in the system

Any establishment that wishes to market coloured eggs in accordance with KAT requirements must register with KAT at www.anmeldung.kat.ec and – if not already a participant in the KAT system – enter into a KAT participant contract.

Once the KAT Office has been provided with all of the necessary registration documents and signed participant contract, the establishment will be given access details for the KAT database and the database instructions.

Procedure

- KAT user contract and right to use the KAT logo
- Audit performed in accordance with KAT guide/checklists
- Audit report and conformity certificate are issued

6 Responsibilities

Every stage in the value chain is responsible for complying with the described requirements and for correctly reporting the necessary data to the KAT database.

7 Data protection

The data entered by the system participant in the KAT database system are stored on the internet server and computer system and on data storage media. All data are protected against tampering and access by third parties through state-of-the-art technology. Master data are not transferred to third parties and are used exclusively by KAT for participant administration.

Only the KAT Office and the participants themselves have access to the data entered in the system. The disclosure of data to entities outside the system (“the public”) is fundamentally excluded.

For the purpose of plausibility checks, the KAT Office has comprehensive access rights to participant data and can also access information on bird movements at all production and sales stages included in the KAT system.

8 Internet portal

In order to create greater transparency, KAT offers a special service on the query page at www.was-steht-auf-dem-ei.de: By entering the number printed on the egg (stamp number), consumers can find out the name and location of the laying farm and view pictures of the henhouse and birds. The query function is also available as a smartphone app.

Further information on the KAT system can be found at www.kat.ec Every KAT participant can register for the internal area of the website and download the documents held there (circulars, forms, member lists, etc.).

Teil II: List of requirements

1 General conditions

1.1 Separation of KAT goods and third-party goods

- 1.1.1 **[K.O.]** KAT goods and third-party goods are kept separate, physically and administratively, with this separation being permanently traceable. Any risk of KAT goods being mistaken for or mixed up with third-party goods is excluded.

1.2 Goods reports

- 1.2.1 **[K.O.]** All KAT goods movements are documented for the dyeing plant in the form of goods in and goods out reports. The dyeing plant enters the goods reports at least once every week – by no later than midnight on Wednesday of the following week – into the KAT database at <https://datenbank.kat.ec>.

Purchases of third-party goods are also entered in the KAT database in the form of goods reports.

Information: If contract dyeing takes place, the goods reports should be submitted by the party who commissioned the contract dyeing.

1.3 Official licence

- 1.3.1 **[K.O.]** The dyeing plant holds an official licence pursuant to Regulation (EC) 853/2004.

1.4 Establishment description

- 1.4.1 The dyeing plant has an establishment description containing as a minimum all of the master data about the company needed for KAT.

2 Quality management system

2.1 Certifications

- 2.1.1 **[K.O.]** Dyeing plants that produce more than 15 million eggs per year are certified according to IFS Food.

- 2.1.2 Relevant documentary evidence of the annual egg output is available.

Information: Dyeing plants that produce less than 15 million eggs per year are not required to hold IFS certification. Instead, they are subject to checks to ensure that the additional requirements for small businesses (see → Chapter 9) are being met.

2.2 HACCP system

- 2.2.1 **[K.O.]** In the "boiling" step of the manufacturing process, the core temperature of the eggs is defined as the critical control point (CCP). It must be 73 °C for at least 90 seconds immediately after the boiling process is completed. This value is monitored. If a different temperature/time combination is chosen, the dyeing plant must have evidence to show that its parameters are suitable for the manufacture of a safe food product and thus a product suitable for human consumption.

2.2.2 In the event that the water temperature drops below the minimum value, an optical and/or acoustic warning signal is triggered and/or an automatic device halts the process. A functional check of these systems is carried out and documented at least before the start of production, after any interruption and after the end of production.

2.2.3 The egg processing time is checked at least once a year as part of the inspection of the HACCP system. If the system setting is changed in such a way that a different combination of minimum throughput time and minimum boiling temperature results, the new process is validated and documented.

3 Handling of hazardous substances

3.1 Risk assessment

3.1.1 As part of a risk assessment in accordance with Section 6 of the Hazardous Substances Ordinance, the dyeing plant has determined whether the processing and storage of dyes or flammable liquids pose any hazards to employees or to other persons

3.2 Storage of dyes

3.2.1 Dyes and other liquids containing solvents are stored exclusively in rooms that are not generally accessible. A prominent sign with clearly legible lettering is displayed prohibiting access by persons from outside the company.

3.2.2 Measures are in place to ensure that containers filled with dyes and other solvent-containing liquids are placed in collecting devices that can hold at least the cubic content of the largest container. If the possibility of hazardous explosive atmosphere cannot be excluded, the collecting devices must be electrostatically dissipative and earthed. There are no effective ignition sources in the immediate vicinity of storage containers filled with flammable hazardous substances.

3.2.3 The storage rooms for dyes and solvents have explosion-proof lighting and appropriate technical equipment to ensure permanent and monitored ventilation of the premises.

3.2.4 Dyes or solvent-containing liquids are only stored at the workplace in the quantities required for the daily/shift production.

4 Manufacturing process

4.1 Production site

4.1.1 The production site, including the external area and the production premises, is designed in such a way that any risk to food safety due to structural and/or hygienic deficiencies can be excluded.

4.2 Dyeing process

4.2.1 Only sorted KAT-certified eggs are used in the dyeing process. If non-refrigerated goods are processed, it is guaranteed that they comply with quality class A according to Regulation (EC) 589/2008. For goods processed after cold storage, it is guaranteed that they comply with the quality characteristics of eggs according to Article 2, point 1 of Regulation (EC) 589/2008 at the time of processing.

This also applies to purchased chilled goods.

- 4.2.2 The incoming goods inspection is carried out on the basis of a defined sampling plan and is documented. Limit values/tolerance ranges are defined for all quality parameters according to the following table and are complied with:

Tab. 1: Quality parameters and limit values/tolerance ranges

Quality parameter	Limit values/tolerance ranges
Quality class A	All eggs used in the dyeing process comply with the requirements under point 4.2.1.
Air chamber height	The maximum air chamber height is 6 mm.
Egg white index	Averages a minimum of 70 Haugh units based on a measurement series of at least 8 eggs.
Breaking strength	The breaking strength value is not less than 40 N. If the breaking strength is not measured, only eggs from flocks that have not yet exceeded the 45th week of life are processed.

- 4.2.3 The pallet labelling remains in place until the eggs reach the dyeing plant and complies with the requirements of Regulation 589/2008. If the goods are KAT goods, this should also be stated on the pallet label.

4.3 Storage of raw eggs

- 4.3.1 Raw eggs are stored properly and hygienically in suitable premises.

- 4.3.2 Non-refrigerated eggs are processed no later than 28 days after the laying date. Eggs intended for cold storage are refrigerated no later than 14 days after the laying date.

- 4.3.3 The following parameters are observed with regard to the cold storage of eggs:

Eggs stored at 0-1 °C and a relative humidity of 75-90% are processed no later than 70 days after the laying date. This means that an external laboratory must validate the refrigeration process by checking the freshness parameters and suitability for consumption of the eggs.

Eggs stored at 1.1-4.9 °C and a relative humidity of 75-90% are processed no later than 56 days after the laying date.

Eggs stored at 5-8 °C and a relative humidity of 75-90% are processed no later than 42 days after the laying date.

Temperature and humidity are continuously recorded.

- 4.3.4 Refrigerated eggs are removed from storage a maximum of 72 hours before processing. This means that any negative effect on the eggs as a result of the storage conditions is excluded. This is documented accordingly.

4.4 Dyes in egg shell lacquers

- 4.4.1 Only approved colouring agents are used. The azo dyes tartrazine (E102), sunset yellow (E110), carmoisine (E122), cochineal red (E124a), allura red (E129) and the dye quinoline yellow (E104) are not used.

If the dyes are mixed in the dyeing plant itself, the dyes used must be documented.

Information: Certain dyes can trigger pseudoallergies (such as hives, asthma or skin oedema) in people susceptible to allergic reactions.

4.5 Boiling and dying process

- 4.5.1 Only eggs from the same weight class are used in the boiling process.
- 4.5.2 The boiling process is followed by a process step in which eggs with visually detectable shell defects are sorted out.
- 4.5.3 The boiling process is followed by a process step in which eggs with defective colour sealing are sorted out.
- 4.5.4 The water is changed and the machines are cleaned daily, even during continuous production. This is documented accordingly.

4.6 Process check

- 4.6.1 A documented inspection of the finished product takes place every hour. This inspection includes at least:
 - ✓ Legibility, adhesion, position and presence of the best-before date label
 - ✓ Correctness of the best-before date
- 4.6.2 If the KAT audit finds more than one quality defect in the inspection of 20 eggs, the sample is extended to include 100 eggs. In this case, the quality defect tolerance is 5% of the eggs. Quality defects are:
 - Shell defects
 - Defective colour sealing (unsealed areas > 0.25 cm²)

4.7 Storage of finished products

- 4.7.1 Finished products are stored properly and hygienically in suitable premises.

5 Monitoring, measurement, analysis

5.1 Reference samples

- 5.1.1 Reference samples are taken from each batch of finished goods and stored at room temperature until at least two weeks after the best-before date. The sample size is at least 10 eggs per day per dyeing unit or production line.

5.2 Traceability

- 5.2.1 **[K.O.]** The traceability system enables batch-based tracing of all raw goods, packaging, ingredients (e.g. salt bags), eggshell lacquers and finished goods in either direction (from delivered product to raw goods and vice versa).

The system ensures that a traceability test can be carried out within the audit period.

5.3 Inspections/analysis

5.3.1 In order to verify the heating process, a freshly dyed sample is taken to an external laboratory at least once a quarter on the basis of a risk-oriented sample plan and analysed there directly for Enterobacteriaceae (see Regulation (EC) 2073/2005, Annex I, Chapter II, 2.3.1).

The laboratory is accredited for this analysis method according to DIN ISO/IEC 17025.

5.3.2 Based on a risk-oriented sample plan, a freshly dyed sample is sent to an external laboratory at least once per quarter and analysed for the following parameters at the end of the best-before date:

- ✓ Sensory checks (smell, taste, appearance, consistency)
- ✓ Total number of aerobic bacteria
- ✓ Enterobacteriaceae
- ✓ Salmonella in the product and on the egg shell
- ✓ Yeast
- ✓ Moulds
- ✓ Aerobic spore organisms
- ✓ Listeria monocytogenes

The laboratory is accredited for these analytical methods according to DIN ISO/IEC 17025.

6 Labelling

6.1 Labelling in accordance with the Food Information Regulation

6.1.1 **[K.O.]** The minimum statutory labelling elements in accordance with the Food Information Regulation are as follows:

- ✓ Name of the food product (“boiled and dyed eggs” or “coloured eggs”)
- ✓ Name or company name and address of the manufacturer, the packer and the seller
- ✓ List of ingredients in descending order
- ✓ BB date (best-before date comprising date and month)
- ✓ Identity mark (official approval)
- ✓ Quality (no. of units or minimum net weight)
- ✓ Nutritional information (to be displayed on the outside of the packaging)

Tab. 2: Nutritional information for eggs

Nutritional values	Per 100 g
Calorific value	638 kJ/153 kcal
Fat	11 g
- of which saturated fat	3.3 g
Carbohydrates	0.6 g
- of which sugar	< 0.5 g
Protein	13 g
Salt	0.32 g

Source: Zentralverband Eier e.V., 12 February 2014

6.2 Additional labelling

6.2.1 From 1 October until Easter (of the following year), the best-before date is limited to the date of production + 32 days.

From Easter until 30 September of a given year, the best-before date is reduced to the date of production + 28 days.

Information: For retail deliveries, a remaining shelf life of 21 days is recommended.

6.3 KAT labelling

6.3.1 The KAT logo should be affixed to all packaging for coloured eggs marketed as KAT goods in accordance with the current design rules.

The EU license number of the dyeing plant should also be indicated on each pack.

 *KAT logo design rules*



7 Contract dyeing

7.1 Dyeing plants

7.1.1 If a dyeing plant that participates in the KAT system subcontracts the dyeing process to a third party, and if the goods are to be marketed as KAT goods, measures are in place to ensure that the subcontracted dyeing company has a valid KAT conformity certificate.

8 Crisis management

8.1.1 Contingency plans with clearly defined responsibilities are in place in the event of an emergency or critical situation. These include the names and telephone numbers of all key contact persons (e.g. veterinary surgeon, veterinary inspection office, suppliers/buyers, KAT).

-  *Form FB-LB 11 “Contingency plan/contact list”*
-  *KAT Emergency Guide for Member Establishments*

9 Additional requirements for small businesses

Dyeing plants that produce less than 15 million eggs per year are not required to hold IFS certification. Instead, they are subject to checks to ensure that the additional requirements for small businesses (see → Chapter 9) are being met.

9.1 Hygiene and training

9.1.1 There are documented instructions regarding staff hygiene. These must at least cover the following points:

- ✓ Hair and beards
- ✓ Protective clothing (including its use in staff social areas)
- ✓ Hand washing and disinfection, and hygiene
- ✓ Eating, drinking and smoking
- ✓ Conduct/measures in the event of skin injuries (e.g. cuts, abrasions)
- ✓ Fingernails, jewellery and personal items, reporting of infectious diseases and complaints that impact on food safety

9.1.2 The personnel hygiene rules are observed and applied by the staff, service providers and external persons.

9.1.3 The hand hygiene facilities include an appropriate number of washbasins. These are placed at the access points to the production rooms and/or within the rooms, and are designated as being exclusively for hand washing.

9.1.4 The hand hygiene facilities meet the following requirements:

- ✓ Running drinking water at a suitable temperature
- ✓ Suitable equipment for cleaning and disinfecting
- ✓ Suitable hand drying provision

9.1.5 Employees are given food hygiene training at least once per year. There is documentary evidence of this.

9.1.6 If the operation has permanent employees, they have access to social rooms and toilet facilities that are of a suitable size and appropriately equipped for the number of staff. These facilities are in a clean and intact condition. There must be no negative effect from these areas on the product.

9.1.7 Street clothes and work clothing must be stored separately from one another.

9.1.8 Changing rooms are arranged such that they provide direct access to the production area.

9.2 Structural requirements for dyeing plants

- 9.2.1 The outside areas of the plants are permanently kept in a clean and tidy condition. Pest monitoring is also carried out in these areas.
- 9.2.2 Walls are designed and constructed to prevent the accumulation of dirt and limit the formation of condensation or mould, and are easy to clean.
- 9.2.3 The wall surfaces are in a non-defective state, and are easy to clean and, where necessary, disinfect. They are impermeable to water, water repellent and abrasion resistant.
- 9.2.4 The floor coverings are appropriate for the production requirements (e.g. mechanical load, cleaning agents, temperature), are in a non-defective condition and are easy to clean.
- 9.2.5 The water drains are easy to clean and designed to minimise the risk of product contamination (e.g. negative effects, penetration of pests).
- 9.2.6 Ceilings and ceiling structures (incl. pipes, cables, lamps) are constructed to prevent the accumulation of dirt and to minimise condensation and mould formation.
- 9.2.7 Windows and other openings are designed to prevent the accumulation of dirt. Where windows and skylights are opened for ventilation purposes, they are blocked with easily removable insect screens or similar measures are in place to prevent contamination.
- 9.2.8 The doors are in a non-defective condition. They are easy to clean and, if necessary, disinfect. External doors and gates are designed and can be closed in a way that prevents unauthorised entry or the entry of pests.
- 9.2.9 Devices, fittings and equipment are easy to clean, and in a good, clean condition (functioning properly with no rust or corrosion).
- 9.2.10 Any existing ventilation systems are installed such that filters and other parts that require cleaning or need to be replaced are easily accessible.

9.3 Water

- 9.3.1 The water used is drinking water and is available in sufficient quantity. The water quality is monitored.

9.4 Cleaning

- 9.4.1 There are cleaning and disinfection plans for all areas to be cleaned, as well as instructions on how to use the cleaning and disinfection agents correctly.
- 9.4.2 Cleaning and disinfection results in effectively cleaned premises, facilities and equipment. The cleaning methods are appropriately implemented, documented and subject to random checks.
- 9.4.3 Food waste and other waste are collected in clearly labelled containers and removed from food handling areas as quickly as possible. The accumulation of this type of waste is avoided.
- 9.4.4 Cleaning, disinfecting and pest control agents are kept separate from food and are stored in closed and leak-proof containers.

9.5 Foreign materials

- 9.5.1 Unless it can be dispensed with, any wood used is in an intact and clean condition.
- 9.5.2 Any glass breakages or breakages of other materials are recorded. Exceptions are justified and documented.

9.6 Pest control

- 9.6.1 The establishment has a suitable pest control system in place. A contract has been concluded with an external service provider. If pest control is carried out in-house, the responsible person has appropriate proof of expertise.
- 9.6.2 Baits, traps, monitors and insect exterminators are fully functional, fit for purpose and used in such a way that there is no risk of contamination.
- 9.6.3 The pest control measures are effective.

9.7 Storage and transport

- 9.7.1 Before loading, the condition of the transport vehicles is checked and, if necessary, measures are taken to remove e.g. extraneous odours, dust, moisture, pests or mould. All transport vehicles and the loading ramps/areas are included in the cleaning plan.
- 9.7.2 The transport and storage containers are in a good, clean condition.
- 9.7.3 The loading area is suitable for loading. It is designed so that:
- ✓ the risk of pest infestation is minimised.
 - ✓ products are protected against adverse weather conditions.
 - ✓ the accumulation of waste is avoided.
 - ✓ condensation and mould growth are prevented.
 - ✓ it is easy to clean.


9.8 Site inspections

- 9.8.1 Regular inspections of the factory or production area take place. The following elements are checked:
- Structural condition of the production and storage areas
 - Outdoor areas
 - Product control during processing
 - Compliance with hygiene requirements during product processing and in the production areas
 - Staff hygiene
- 9.8.2 All materials used are suitable for the purpose for which they are intended (e.g. food-grade grease and coatings).
- 9.8.3 All measuring equipment is calibrated at defined intervals. The results of the calibration are documented.

Teil III: Annex

1 Signs and symbols

[K.O.] Knock-out criteria

 References to applicable documents

→ Reference to other sections

2 Definition of terms

Tab. 3: Definition of terms

Term	Definition/explanation
Coloured eggs	Boiled and dyed chicken eggs
Coloured KAT eggs	Boiled and dyed chicken eggs that complied with the criteria of quality class A before processing and that originate exclusively from approved KAT establishments
Dyeing plant	Plant that produces boiled and coloured eggs
BB date	Best-before date
N	Newton: SI unit of force
Haugh unit	A measure of egg protein quality based on the size of the egg white (albumen); this unit of measurement is an important aspect of egg quality
Food Information Regulation	Regulation (EU) on the provision of food information to consumers
Contract processing	A commissioned service (contract dyeing, contract sorting, contract spray drying etc.) without any change in ownership of the goods

3 Applicable documents

The documents can be downloaded from the internal area of the KAT website www.kat.ec.

Applicable documents (in the currently valid version) include:

KAT documents

- ✓ KAT logo design rules