DOC Kaas ba Hoogeveen
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E.C. accreditation number: Z 0059

Gouda cheese matured in foil

Brief description of the production and packaging process.

The raw milk, which is delivered, is cooled and stored in insulated milk reception tanks. After a brief storage period, the milk is thermally treatment in order to lengthen its life. During this thermal treatment, the milk is separated from the cream in order to achieve the desired level of fat content. If necessary or desirable, the bacteria are expelled from the milk.

The milk is then cooled once again and stored in insulated standardisation tanks. Before the milk is pumped into the curding machine, it is pasteurised. In the pasteurisation process, the milk is heated to a temperature necessary to kill off the pathogenic micro-organisms. The milk is pasteurised to precisely phosphatase negative.

In the curding machine, the ingredients are added to the cheese milk. After adding the rennet, the milk is left so that it can in gel. After the gel has reached the correct consistency, the curding process can begin by slicing and stirring the gel. A mix of curd and whey is now created. In order to achieve the correct volume of moisture and of lactose (which determines the pH of the cheese which is made), a portion of whey is drawn off and a portion of drinking water added. The mix that now occurs is stirred and then pumped into the buffer tank. From the buffer tank the whey-curd mix is pumped to an automatic drainer and shaping machine (casomatic). Here, the surplus whey is removed and the curd mass formed.

The curd mass is poured into the cheese mould, an official cheese stamp is applied and a cover placed, after which it is transported to the press. The cheese is now pressed in order that it obtains a good thick rind. When the pressing programme is completed, the cheeses are removed from the vat and placed in brine. In the brine, the cheese obtains its correct salt content. The production process is virtually fully automated.

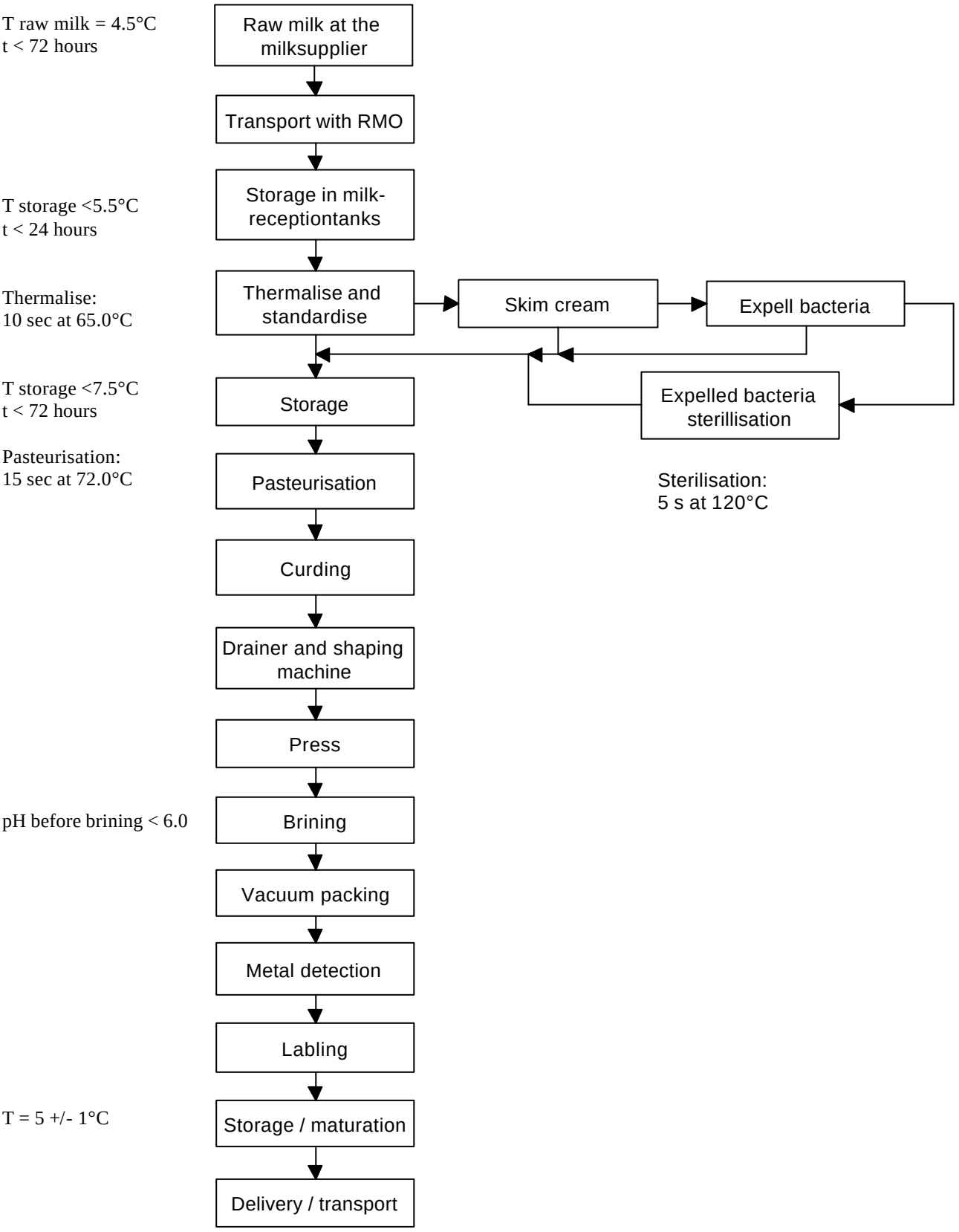
As soon as the cheese is sufficiently salted, it is removed from the brine and fully automatically vacuum packed in a PVC-free covering. The packaging material is a protection for the cheese, ensuring that it maintains its freshness. Before being labelled, all cheeses are checked for metal particles by means of a metal detector. The cheeses are delivered loose, the bottom layer is protected against damage from wooden splinters by a piece of cardboard. On the label of the cheese is stated, among other things: the production date, an internal batch number, package number, the serial number and the weight of the cheese.

Certificates

	Description	Certificate	
		yes	no
COKZ	Process and product certification	☒	☐
ISO 9002	Quality system	☒	☐
BRC	Certification accepted by British supermarket chains	☒	☐
H.A.C.C.P.	Refers to the food safety and is safeguarded by the COKZ and the quality system of DOC Kaas.	☐	☒*

* H.A.C.C.P. procedures followed but no certification as yet.

Flow chart of the production process



General data

Commodities Act name: Rindless Gouda cheese
Delivery age: 28 days after production

Product description

Shape: flat, rectangular block of cheese
Outside: vacuum wrapped in foil
Production:

Raw material: cow's milk
Rennet: animal
Colouring: Beta-carotene E160a
Sour milk type: mesophile
Other ingredients: calcium chloride 33%, purified
Sodium nitrate 34-36%, liquid
Kitchen salt (NaCl)

Appearance:

Consistency: malleable, sufficiently stiff and sliceable
Colour: evenly spread ivory to yellow
Eye formation: provided with more or less round openings with a diameter of 1 to 10 mm, more or less evenly distributed over the cheese
Aroma and taste: good and specific to the cheese

The raw materials and ingredients used in DOC Kaas are as far as is known not of genetically modified origin (GMO).

Physical and chemical data

Age of the cheese: 15 days

Definition	Method	Frequency of analysis	Target value	Min-max	
Moisture	NEN 3775	5 % of all batches	40,8%	39,3%	42,3%
Fat in dry matter	NEN 3758	5 % of all batches	51,4%	50,3%	52,5%
Fat in cheese	Calculated	5 % of all batches	30,4%	29,0%	31,9%
Salt in dry matter	NEN 3761	5 % of all batches	3,7%	3,2%	4,7%
Salt in cheese	Calculated	5 % of all batches	2,2%	1,8%	2,9%
Protein	Calculated	5 % of all batches	23,0%	19,9%	25,8%
pH	Digital Vitreous electrode	2 % of all batches	5,27	5,12	5,42
Nitrate	NEN 3764	5 % of all batches	35 mg NaNO3/kg	25	50
Low nitrate	NEN 3764	5 % of all batches	6 mg NaNO3/kg	0	10

Bacteriological data

Age of the cheese: 15 days

Definition	Method	Frequency	Standard (m)	Maximum (M)
Coliforms	NEN 6874	2x per month	$< 5*10^2$/g	$5*10^3$
Escherichia coli	Similar to NEN 6874	Depends on the level of the coliforms	$< 1*10^2$/g	$1*10^3$
Lactobacillus	NEN 6815	2x per month	$< 2*10^5$/g	$2*10^6$
Staphylococcus Aureus	NEN 6876	1x per 2 months	$< 1*10^2$ /g	$1*10^2$
Listeria monocytogenes	Derived from the IDF method	1x per 2 months	Absent in 25 g	-
Salmonella	NEN 6871	1x per 2 months	Absent in 25 g	-
Moulds	NEN 6873	1x per 2 months	$< 1*10^2$ /g	$1*10^3$
Yeast's	NEN 6873	1x per 2 months	$< 1*10^2$ /g	$1*10^3$
Thermo-resistant Streptococci	NEN 6808	1x per week	$< 1*10^7$/g	$1*10^8$
Total Plate Count (30°C)	N/A	N/A	*	

Standard measures and weights

	Loosely stacked on pallet		Individually packed in box and stacked on pallet	
Weight	15,4 kg	+/- 1.5	16,6 kg	+/- 1.5
Length	48,5 cm	+/- 1.0	48,5 cm	+/- 1.0
Width	30,0 cm	+/- 1.0	30,0 cm	+/- 1.0
Height	10,0 cm	+/- 1.0	11,0 cm	+/- 1.0
Number on pallet	64		63	
Dimensions pallet	0.80 x 1.20 m		1.10 x 1.15 m	
Pallet	Pallet with deposit		Disposable pallet	

Shelf life

	Loosely stacked on pallet	Individually packed in box and stacked on pallet
Shelf life a	1 year	1 year
Shelf life b	2 weeks	4 months
Shelf life c	4 months	4 months

Shelf life a: Due to an optimum preparation at DOC Kaas, with storage under optimal conditions, a shelf life of 1 year can be guaranteed for the cheese.

Shelf life b: DOC Kaas may not be held responsible for any incorrect handling of the cheese during transport or during storage which results in misshaping or damage either to the rind or the foil cover. A period of 2 weeks after delivery date applies to the foil cheeses on pallet and 4 months after delivery date to boxed cheeses.

Shelf life c: DOC Kaas may be held responsible for any production faults which may result in mould growth, only if within 4 months of the production date it can been demonstrated that the cheese has been treated in the correct manner, a proven production fault can be shown, and the percentage waste due to mould growth is more than 0.5% of the batch.

The cheese can be delivered from the 29th day after production. The cheese must then be stored in a dry place at a temperature of 5 ± 1°C.

* Total plate count is unlimited due to the use of starter culture as a process component in making the cheese.

Quality control

Intake control of raw material and Ingredients:

The quality of the ingredients is monitored and controlled according to the guidelines of the COKZ.

- Rennet
- Starter culture
- Calcium chloride
- Carotene/Annatto
- Raw milk

Process control:

This control, by the staff of the company laboratory, is performed systematically in line with the specifications of an ISO 9002 quality system.

- Thermally treated milk
- Cheese milk from the curding machine
- Whey from the curding machine
- Whey from the drainer and shaping machine
- Brine

Packaging control:

The process operator of the cheese warehouse according to ISO 9002 stipulations performs a systematic control.

- Cheese packaging material
- The seal and the vacuum
- The delivery weight
- The label on the box or on the cheese

Final product control:

The cheese is subjected to two random organoleptic checks:

1. At the moment that the cheese comes out of the brine it is visual inspected for inside and outside appearance.
2. At the moment of delivery the cheese is assessed on appearance, consistency of aroma and on taste.

Reaching the end of shelf life date:

On reaching the end of shelf life date, an organoleptic control of the cheese is made since a microbiological control of this cheese would not make sense because the cheese is a self-conserving product and the microbiological condition of the cheese changes little or not at all after the 15th day.

Traceability:

Each cheese made by DOC Kaas is given an official cheese stamp number. This number has a unique code. Based on this code, the data of this cheese and everything connected with it can be traced. With this cheese number it is possible to track down: the composition of the cheese, the composition of the cheese milk, which tank was used, production date, etc..

Nutritious value

Values are presented in kJ and Kcal according to the Nederlands Nutritional Value table per 100g.

/100 gram cheese	kJ	Kcal
Energy	1558	376

	/100 gram cheese
Water	41 g
Protein	23 g
Fat	30 g
Of which, unsaturated	12 g
Salt	2 g
Cholesterol	98 mg
Carbohydrates	0 g
Minerals:	-
Calcium	784 mg
Sodium	808 mg
Potassium	82 mg
Iron	0,1 mg
Vitamins:	-
Vitamin A retinol	278 µg
Vitamin B1 Thiamine	0,03 mg
Vitamin B2 Riboflavin	0,18 mg
Vitamin C Ascorbic acid	1 mg
Vitamin D	0,6 µg

Allergy information / Oversensitivity / Intolerance

1	Cow's milk protein	Yes		18	Nuts	No
2	Lactose	Yes*		19	Nut oil	No
3	Chicken egg	No		20	Peanuts	No
4	Soya protein	No		21	Peanut oil	No
5	Soya oil	No		22	Sesame	No
6	Gluten	No		23	Sesame oil	No
7	Wheat	No		24	Glutamate	No
8	Rye	No		25	Sulphite	No
9	Beef	No		26	Benzoic acid and Para-am.ben.acids	No
10	Pork	No		27	Azo colorants	No
11	Chicken	No		28	Tartrazine	No
12	Fish	No		29	Cinnamon	No
13	Crustaceans and shellfish	No		30	Vanilla	No
14	Maize	No		31	Coriander	No
15	Cacao	No		32	Celery	No
16	Yeast	No		33	Umbellifers	No
17	Legumes	No				

* Young half-hard cheese contains spores of lactose, the quantity is however hardly demonstrable. Lactose decreases as the cheese ages.