

CHR HANSEN

## GEO CA, GEO CB, GEO CD1, GEO CE *Geotrichum candidum*

Product Information  
Mould cultures

### Description

Chr. Hansen's *Geotrichum candidum* cultures contribute to the ripening in different ways. Indeed, by means of their characteristics, they have an effect on the flavour, the texture, and the appearance of the cheese. These cultures are available as a conidia suspension.

### Origin

The four *Geotrichum candidum* strains, GEO CA, GEO CB, GEO CD1 and GEO CE, are the result of the latest technological development within mould cultures. The cultures are selected single strains with origin in traditional French cheesemaking.

### Technical data

Culture	Colour	Aspect on lactic curd	Neutralisation effect
GEO CA	Cream white	Medium mouldy tendency	High
GEO CB	Cream white	Medium yeasty tendency	Medium
GEO CD1	Very white	Mouldy tendency	Medium
GEO CE	Cream white	Yeasty tendency	High

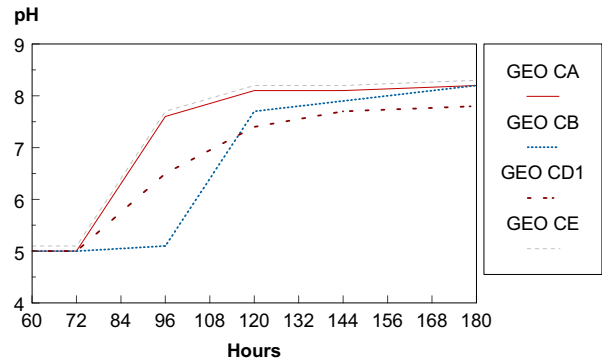
Observations made on a soft cheese model at 12°C

*Geotrichum candidum* contributes to the ripening in different ways:

- { Characteristic appearance of the cheese.
- { Flavour and texture (proteolysis and lipolysis).
- { Neutralisation of the curd.
- { Stimulates red smear cultures by curd neutralisation.
- { Moderates the growth and proteolytic activity of *Pencilium candidum*.
- { Reduces bitter off flavours.
- { Inhibits the growth of numerous mould contaminants (Mucor, blue mould etc).



Neutralising activity



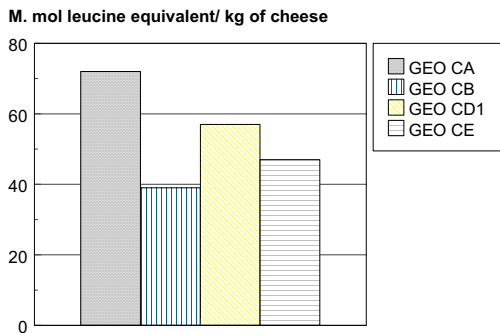
Inoculation level:	1u/100 kg
Substrate:	Soft cheese model
Temperature:	12°C

Enzymatic activities

Culture	Proteolysis	Aminopeptidase
GEO CA	Medium	High
GEO CB	Low	High
GEO CD1	Medium	High
GEO CE	Low	High

Lypolysis is not relevant for *Geotrichum candidum*

Proteolytic activity

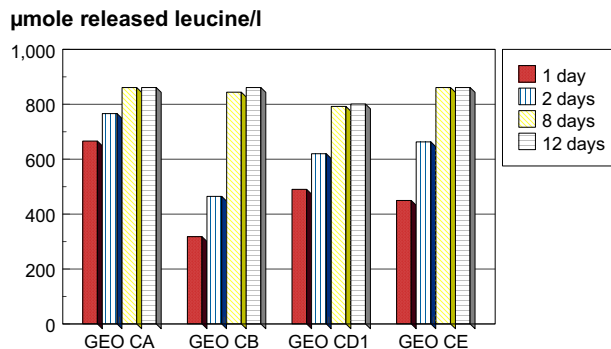


Inoculation level:	1u/100 kg of substrate
Substrate:	Soft cheese model
Temperature/time	12 days at 12°C + 18 days

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## Aminopeptidase activity

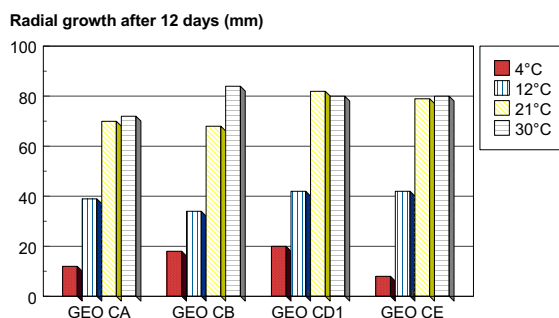


Inoculation level:	10 <sup>7</sup> cfu per ml
Substrate:	LEUPA
Temperature:	12°C

## Physiological features

	GEO CA	GEO CB	GEO CD1	GEO CE
Temperature	Min 4°C, max 35°C, opt. approx 25°C			
pH	No inhibition in cheese conditions			
Salt tolerance (4% NaCl)	Low	Low	Medium	Medium

## Influence of temperature



Inoculation level:	10 <sup>4</sup> cfu (spot)
Substrate:	PDA

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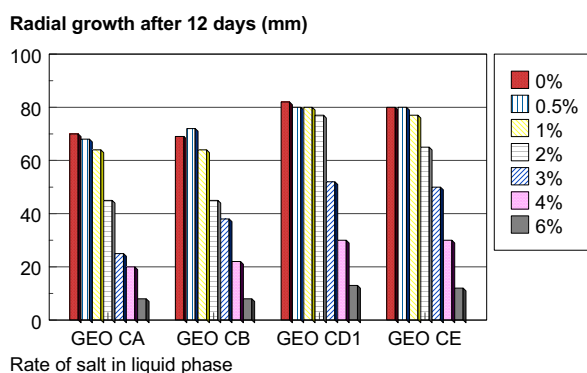
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## Influence of salt (NaCl)



Inoculation level:	10 <sup>4</sup> cfu (spot)
Substrate:	PDA
Temperature:	21°C

## Range

Item no	Culture	Form	Unit	Size	No of bottles/box
200691	GEO CA	Liq.	10	30 ml	30
200692	GEO CB				
200693	GEO CD 1				
200835	GEO CE				

Liq.: liquid

## Storage

GEO CA, GEO CB, GEO CD1 and GEO CE can be used up to 13 weeks after packing when stored at +4°C. Expiry date: see label.

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## Application

GEO CA, GEO CB, GEO CD1 and GEO CE can be used in many types of cheeses. Please see the following table:

Cheese type	Application
Cheeses with white mould surface (eg Camembert type)	Prevents high growth of <i>P. candidum</i> . Improves regularity and speeds up the growth of the mould layer. Anti contaminant effect. Generates flavour. GEO CB and GEO CD 1 recommended.
Smear and mixed rind soft and semi-hard cheeses	Gives fast neutralisation on surface. Increases growth of <i>B. linens</i> (especially GEO CE). Effects appearance of the rind.
Veined cheeses	Inhibits blue mould growth on the surface. GEO CB recommended.

## Dosage

Recommended dosage: 1-2u/1,000 l of milk depending on cheese type and purpose.

## How to use

*Geotrichum candidum* is added to the milk before renneting and/or applied to the surface of the cheese by spraying or washing some hours after salting.

For direct milk inoculation, which is the recommended inoculation method - except for veined cheeses - no particular cautions are required.

For surface application:

- ☐ Dilute in sterile water with 1% salt (NaCl).
- ☐ Shake well before use.
- ☐ 1 l of water is sufficient for approx 250 kg of cheese.
- ☐ Stability of the preparation: use it the same day.

The logo for Chr. Hansen, featuring the text "CHR. HANSEN" in white on a blue rectangular background, with a small green triangle pointing upwards to the left of the text.

## Technical service

Chr. Hansen's world-wide facilities and the personnel of our applied technological department are at your disposal with assistance and instruction.