



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER

Agroscope

Plant-based Dairy Alternatives & Food safety

13tes Treffen der IG Bioconversion & Proteins4Future
06.11.2025

Verena Looser, Ghazal Nemati

www.agroscope.ch | good food, healthy environment



Topics for the next 15 minutes

1. Plant-based **alternative to Raclette**
made from **fermented sunflower oilseed cake**
2. Inhibition of ***Bacillus cereus*** growth
by fermentation of sunflower seed oil press cake
3. **Food Safety** in plant-based alternatives
(planned Agroscope research project 2026 – 2029)



1. Plant-based alternative to Raclette made from fermented sunflower oilseed cake

Innovation project
supported by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Innosuisse – Swiss Innovation Agency



sunflower seed oil

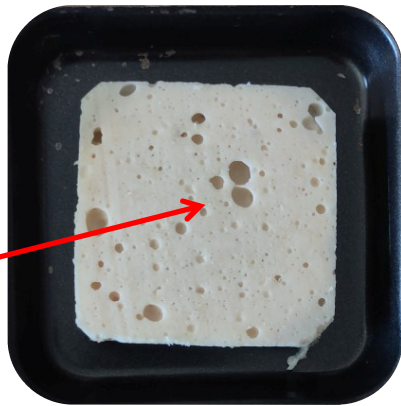


Raclette experience (melting)
unique flavour (not an imitation)

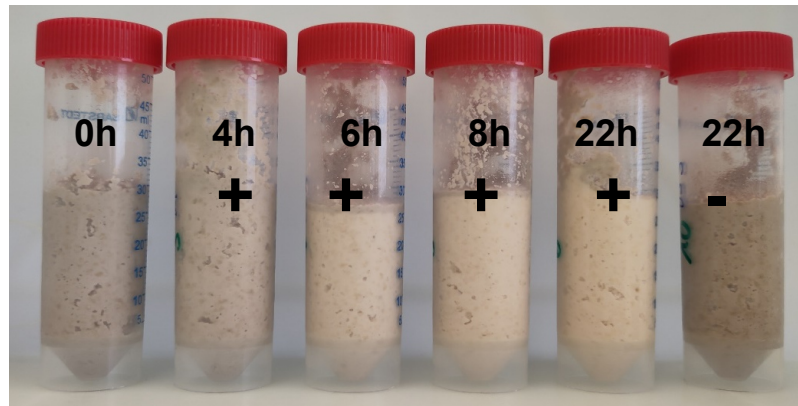


Fermentation of plant-based cheese alternative

using cheese starter culture



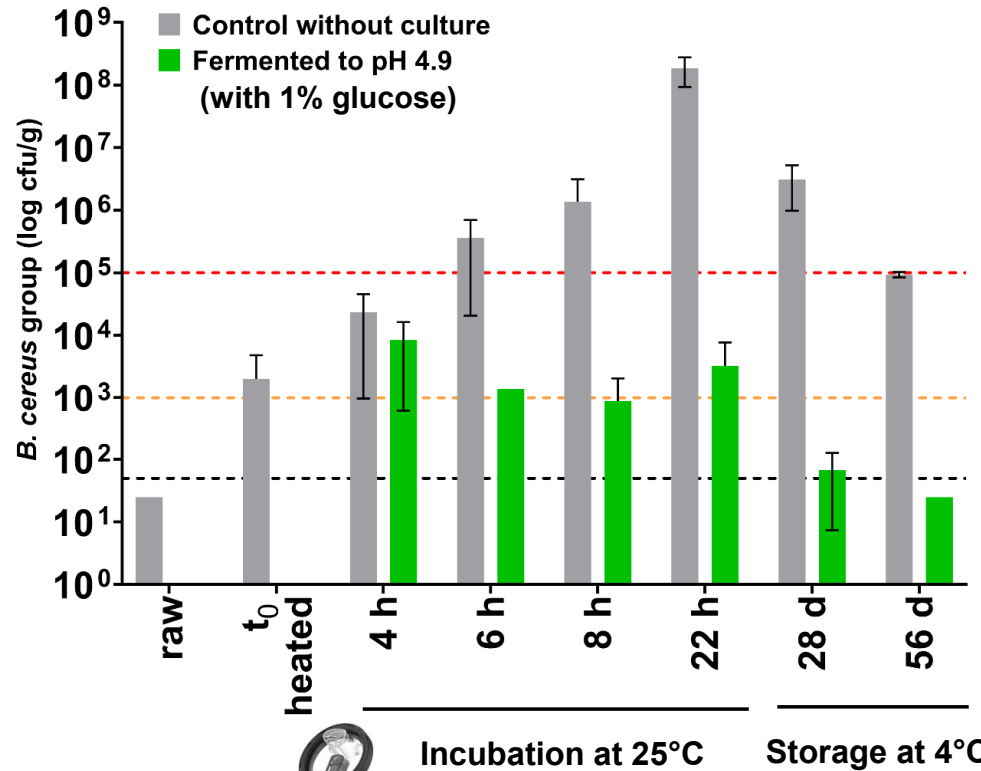
- Unable to degrade available sugar sucrose
- Addition of glucose necessary → enables adjustment of desired pH value
- During fermentation, equal or more buttery aroma (diacetyl) was produced as measured in raclette cheese
- Improved colour by fermentation



- Fermentation inhibited growth of spore-forming *Bacillus cereus*



2. Inhibition of *Bacillus cereus* growth by fermentation of sunflower seed oil press cake



Toxin formation > 10^5 CFU/g

Considered safe < 1000 CFU/g

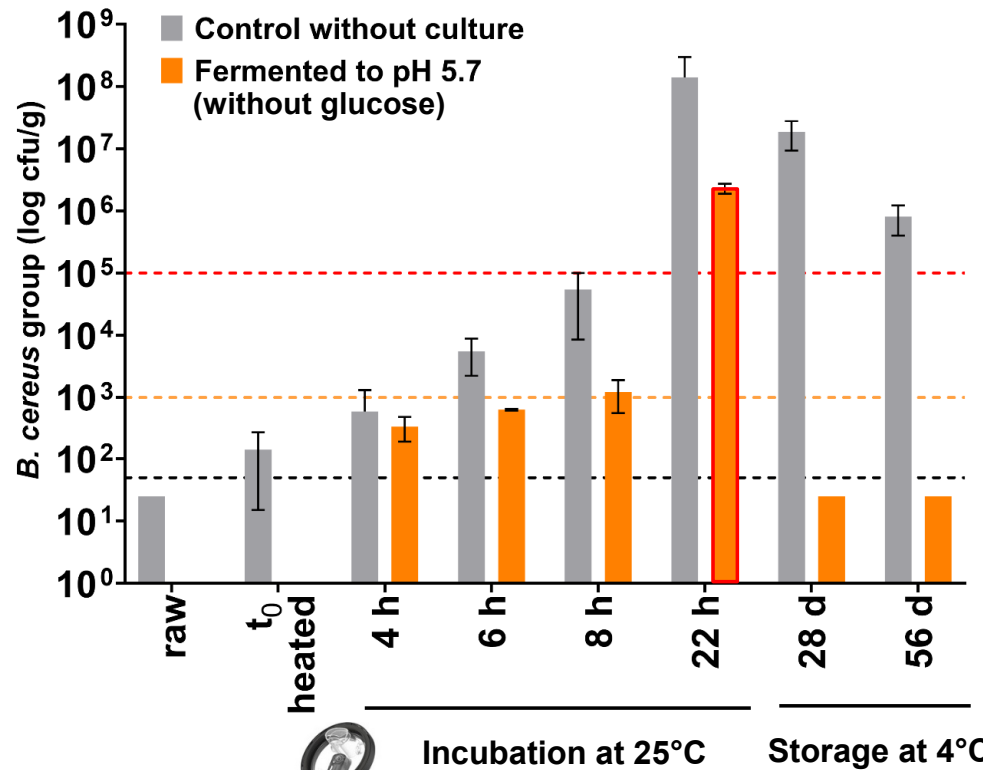
Quantification limit 50 CFU/g
($<50 = 25$)



Source: www.kitchenaid.ch, Agroscope, Looser et al., (submitted)



2. Inhibition of *Bacillus cereus* growth by fermentation of sunflower seed oil press cake



Toxin formation > 10^5 CFU/g

Considered safe < 1000 CFU/g

Quantification limit 50 CFU/g
($<50 = 25$)



Source: www.kitchenaid.ch, Agroscope, Looser et al., (submitted)



3. How can reach milk-level safety in plant-Based alternatives? AP2026-2030 (planned)

Raw Materials

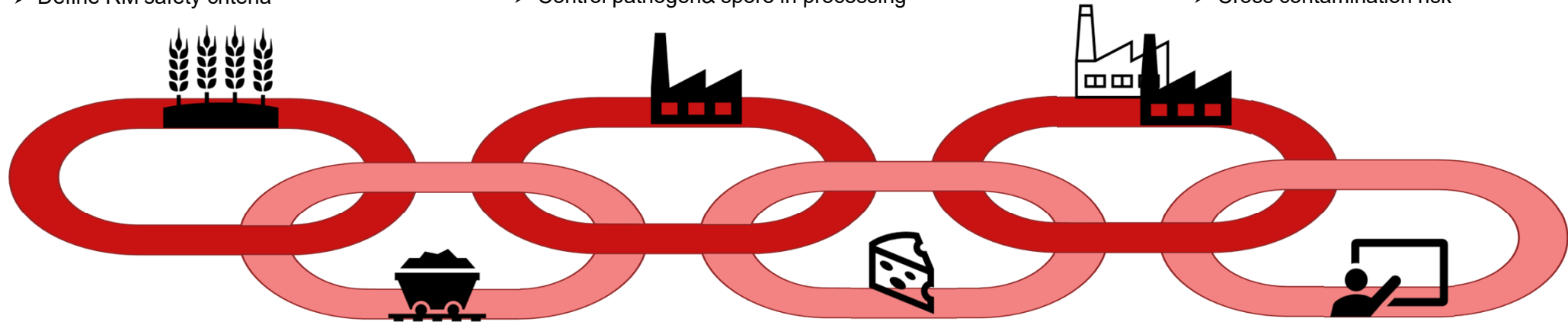
- Screening of RM
- Identify risks
- Define RM safety criteria

Processing & Fermentation

- Develop and validate hurdle technologies (heat, fermentation, ...)
- Control pathogen & spore in processing

Scale-Up & Industrial Implementation

- CIP and cleaning
- CPs
- Cross contamination risk



Side stream & Hybride

- Screening of SS
- Identify risks
- Define SS safety criteria
- Cross contamination risk

Ripening & Packaging

- Assess MO during ripening
- Optimize shelf life
- Assess cross-contamination in mixed production lines

Dissemination

- Sharing with industries
- Optimize Data
- Trainings



Project team and funding



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Département fédéral de l'économie,
de la formation et de la recherche DEFR

Agroscope

Haras national suisse HNS

Ghazal Nemati

Gabriela Purtschert

Jörg Hummerjohann

Elvira Wagner & Dieter Weik

Charlotte Egger & Andreas Bosshart

Lucie Tintrop, Simon Wacker & Doris Zbinden

Sébastien Dubois

Eve-Anne Laurent

Helena Stoffers

Ueli von Ah

Hans-Peter Bachmann

Remo Schmidt

Innovation project supported by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Innosuisse – Swiss Innovation Agency

Seiler Käserei AG

Ölmühle Florin AG



Agroscope News 10.11.2025

Agroscope - gutes Essen, gesunde Umwelt

https://www.agroscope.admin.ch/agroscope/de/home.html

Der Bundesrat > WBF > Agroscope

Startseite Kontakt Medien Übersicht DE FR IT EN

Q Webseite

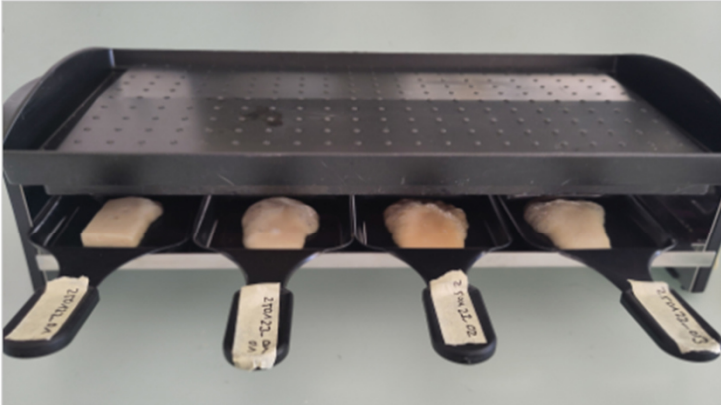
Aktuell Themen Services Publikationen Über uns

Agroscope gutes Essen, gesunde Umwelt

Q Publikationen

Q Mitarbeiter/innen

Newsroom [mehr](#)



Leckere pflanzliche Raclette-Alternative aus Schweizer Rohstoffen

Agroscope hat in einem Innosuisse-Projekt erfolgreich eine pflanzliche Raclette-Alternative auf Basis von lokalem Sonnenblumenpresskuchen entwickelt. Agroscope wird die Rezeptur veröffentlichen und sucht jetzt Herstellungsbetriebe für die Markteinführung.

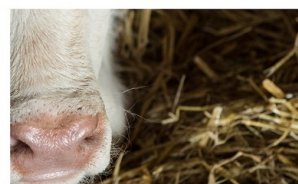
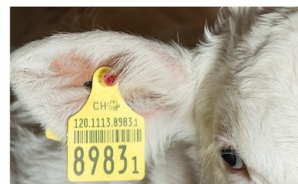
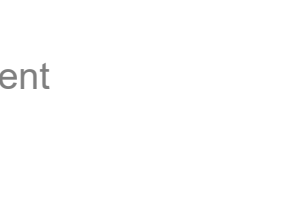
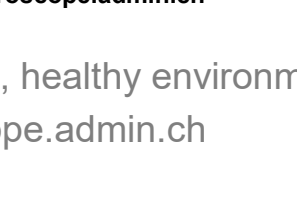
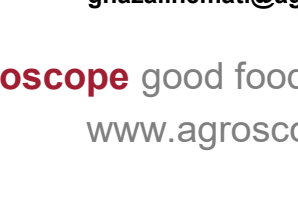
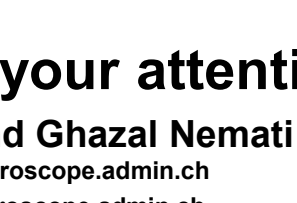
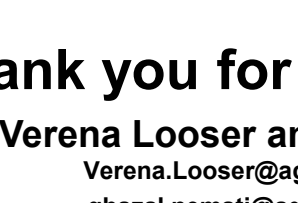
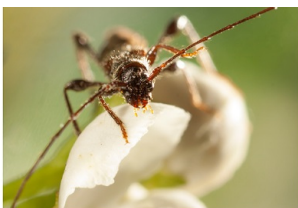
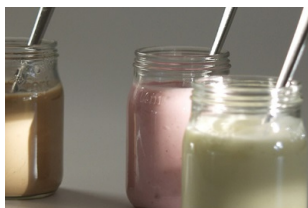
Pflanzliche Raclette-Alternative	Futterbau	Spezialkulturen	Standortstrategie
----------------------------------	-----------	-----------------	-------------------

29.10.2025
Aleppo-Hirse: Früherkennung wichtig

28.10.2025
Gemeinsam verantwortlich: Bevölkerungsperspektiven auf die Agrar- und Ernährungspolitik

27.10.2025
Kartoffelsorten für Chips und Frites im Praxistest

Image source: Agroscope
[Knaulgras](#)



Thank you for your attention

Verena Looser and Ghazal Nemati

Verena.Looser@agroscope.admin.ch

ghazal.nemati@agroscope.admin.ch

Agroscope good food, healthy environment

www.agroscope.admin.ch