



HAL
open science

Typical French cheeses linked to the terroir: from raw milk to rural development issue

François Casabianca

► **To cite this version:**

François Casabianca. Typical French cheeses linked to the terroir: from raw milk to rural development issue. 10. Cheese Symposium, Apr 2018, Rennes, France. 28 p. hal-02786343

HAL Id: hal-02786343

<https://hal.inrae.fr/hal-02786343>

Submitted on 4 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Typical French cheeses linked to the terroir: from raw milk to rural development issue

François Casabianca

*INRA, Laboratoire de Recherches sur le Développement de l'Élevage
Quartier Grossetti, Corte, France*

francois.casabianca@inra.fr

INRA Teagasc – RENNES France

4 – 6 April 2018

Traditional French cheeses : a huge variety !

- France is known for being the country with the largest variety of cheeses, from 350 to 400 different types of cheeses. Actually, this number is difficult to establish.
- Such variety led a famous politician, the former President Charles de Gaulle, to say:
“How to govern such a country with more than 300 types of cheese?”

A fraction is protected as PDO

- Obviously, most of these types are just local specialty products without large commercial ambition.
- But, in 2018, the main French cheeses are often recognized at European level,
 - 45 as Protected Designation of Origin (PDO)
 - and 7 as Protected Geographical Indication (PGI).
- Second country in EU after Italy (50 registered) out of the 189 cheeses (see DOOR).
- From **Roquefort** (a ewe cheese) in 1925 (very first protected cheese in the world) up to the last one (till now), a goat cheese named **Charolais** (registered in 2014)

The French PDO cheese platter



PDO cheeses in France : Value production

- This production of PDO cheeses represents yearly more than 200 Ktons so almost **10%** of the total amount of cheeses produced in France.
- But the total of estimations of domestic consumption and export reaches **28.5 %** of the total turnover (for cheeses) of the firms concerned.
- Source : *Chiffres-clés 2016 – Des produits sous signe de la qualité et de l'origine – Produits laitiers AOP et IGP*
INAO – CNAOL (2017)



Rennes 4 - 6 April 2018



The GI landscape of French milk products

- GI includes also the PGI / Milk products includes also butter and creams :
Add 3 butters and 2 creams PDO + 7 PGI (6 cheeses and 1 cream).
- In 2016, all GI milk products gathered 255 424 tons and 13,5% of the turn-over.
19 343 milk producers, 1 281 on-farm processors and 423 cheese-makers
- When comparing 2016 with 2006, the total volume is quite stable : + 2.7 %

A great proportion of dairy farms involved

- The dairy farms involved in this activity gather in the country :
- 10% of cow milk for 24% of dairy cattle farms (and 28 PDO cheeses),
- 13.5% of goat milk for 34% of dairy goat farms (and 14 PDO cheeses),
- up to 41% of ewe milk for 88% of dairy ewe farms (and 3 PDO cheeses).

Source : Joint report INAO – CNAOL (2017)

Different types of cheese

- Cooked hard cheeses : **32%** / **Comté, Beaufort** / + 22 %
- Uncooked hard cheeses : **30,7%** / **Reblochon, St Nectaire, Cantal, Ossau-Iraty** / -2,2%
- Soft cheeses : **19,1 %** / **Brie de Meaux, Munster, Camembert, Maroilles** / -18,2%
- Blue cheeses : **14,7 %** / **Roquefort, Fourme d'Ambert, Bleu d'Auvergne** / -13 %
- Lactic cheeses (goat cheeses) : **3,5 %** / **Rocamadour, Ste Maure-de-Touraine, Chavignol** / + 9,6%

Some information on prices and markets

- Prices in supermarkets :

Mean all cheeses :	9,45 €/Kg	
Mean PDO cheeses :	14,34 €/Kg	+ 66%
Mean non PDO cheeses :	8,61 €/Kg	

- Type of circuit :

Supermarket	65,8 %
Hard discount	13,8 %
Proximity market	5,8 %
Internet	2,7 %
Specialized seller	11,7 %

French consumers of PDO cheeses

- French cheese consumption : 2^d in the world (after Greece) with 26 Kg / y, 96% of people (47% every day).
- French PDO cheese consumption : some specificities

Income criterion : High and medium income (but light effect)

Age : higher for seniors

Family composition : higher for couples and for families with children (increasing with the age of the children)

Connecting food to place : The concept of « terroir »

- In the French tradition, to be recognized as origin product implies a strong link to the local ecosystem referred to the concept of “terroir”.
- Impossible to translate (Barham, 2003)
- This concept shapes the content of the specifications making mandatory the use of certain resources and know-how.

Definition of « Terroir »

- A terroir is
 - (1) a delimited geographical area
 - (2) where a human community
 - (3) over the course of history generates and accumulates a collective body of production knowledge
 - (4) based on a system of interactions between biophysical and human factors.
 - (5) The sequence of socio-technical steps involved
 - (6) reveals originality, (7) confers typicity (8) and earns a reputation
 - (9) on a good originating in the geographical area in question.

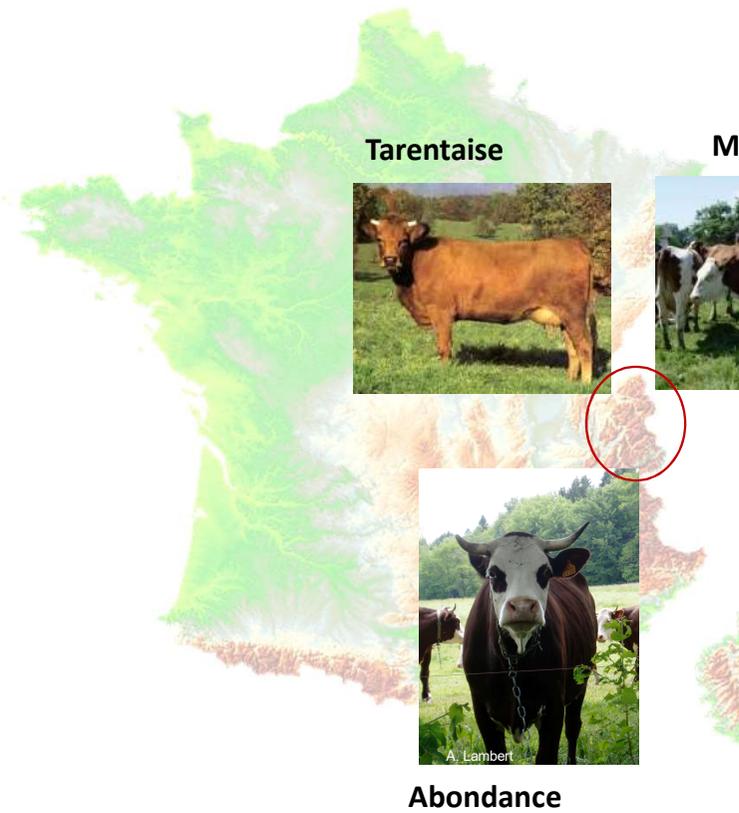
Biodiversity : the use of local breeds

- Several PDO cheese specifications includes local breeds as mandatory Northern Alps (**Beaufort** and **Tome des Beauges**) with *Tarentaise* and *Abondance* breeds
Comté with *Montbéliarde* and *Simmental* breeds
- Local breed with increasing proportion in specification revision
Camembert de Normandie with *Normande* breed
Abondance with *Abondance* breed
- Mention of the breed if 100% of the herd
Munster with Vosgienne breed
Salers and **Cantal** with Salers breed (mention « Tradition Salers »)

Milking a herd of Salers cows in mountain



An example in Savoie PDO cheeses



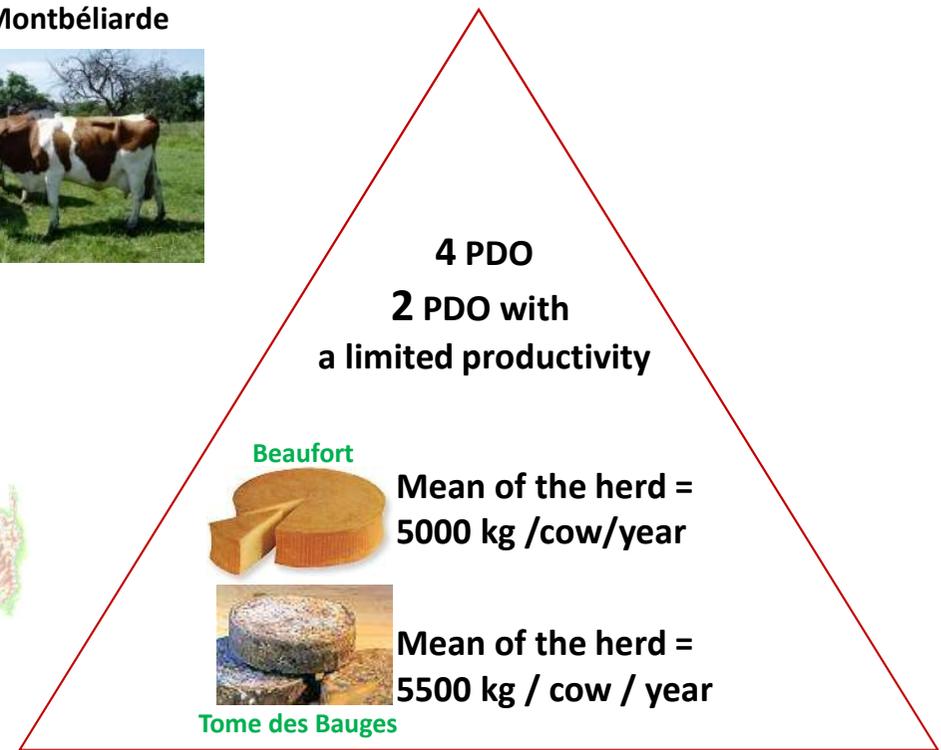
Tarentaise



Montbéliarde



Abondance



Genetic resources : Between collective management and individual choices

Abondance Breed:

Genetic choice and rearing practices

PDO no limit		PDO with limit
P (+20%)	>	P
G	>	G
HYE	>	HYE

Non PDO		PDO with limit
P (-6%)	<	P
G	NS	G
HYE	NS	HYE

Tarentaise breed:

Homogeneous strategies of the breeders

Montbéliarde breed:

Genetic choice

PDO no limit		PDO with limit
P (+5%)	>	P
G	>	G
HYE	NS	HYE

Mandatory use of a local breed in PDO specification

Impact on the collective management and the individual uses

(Lambert-Derkimba et al, 2010 Animal)



Rennes 4 - 6 April 2018



Feeding methods as source of specificity

- Great diversity in the PDO specifications.
According to the local resources.
- Grass and hay are dominant.
Studies on the effects of types of pasture and hays (See Martin B.)
- Silage are increasingly prohibited.
With transition periods.
- GMO are frequently prohibited

A major issue : the raw milk

- Only 10% of the total cheeses in France but 75% of the French PDO cheeses.
- This increasing proportion is however facing a lot of sanitary problems and induces researches for a better management of the whole raw milk chain.
/ Example of present difficulties : **Chavignol** with STEC outbreaks.

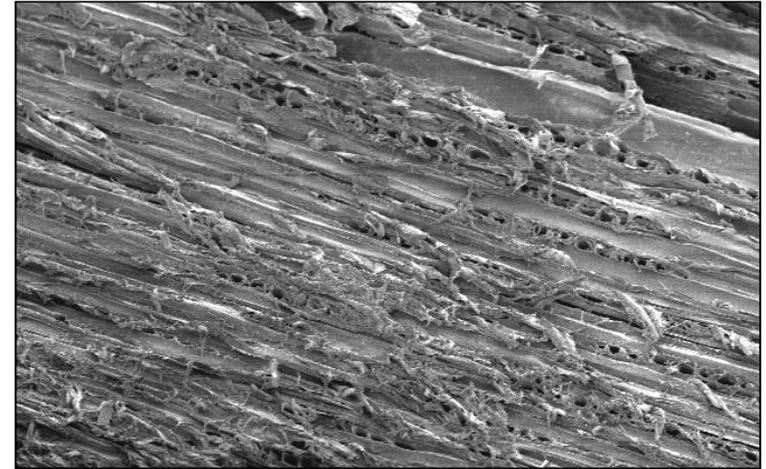
Salers PDO cheese : Mandatory use of « gerle »

Process raw milk in wooden vat ?
Hygienists rules and local practices

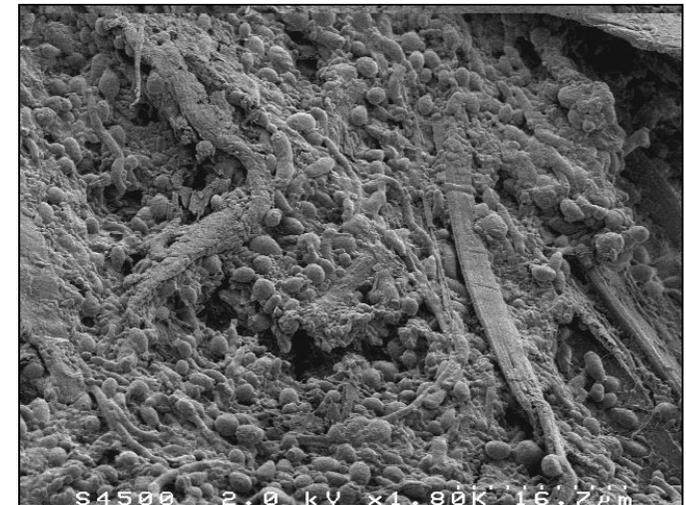
Role of biofilm as barrier flora
Practices of maintenance

Management of Microbia eco-systems

Before preparation



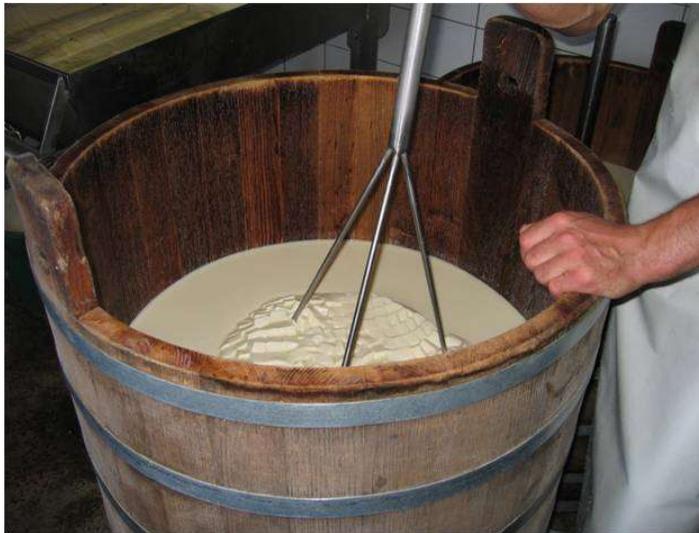
After preparation



Works of S. LORTAL (INRA Rennes)
and
M.C. MONTEL (INRA Aurillac)

Rennes 4 - 6 April 2018

How to « clean » the wooden vat ???



No detergent, but boiling or just hot water ?

Camembert [of / made in] Normandy ?

- The raw milk inside a major crisis in the French PDO cheese world.
- A great firm decided to quit the PDO **Camembert de Normandie** for sanitary reasons (officially).
But using the sourcing denomination « *fabriqué en Normandie* ».
- Conflict between both types of cheeses on the use of the protected name.
PDO with raw milk, with more pasture and increasing porportion of Normande breed.
- Presently, a new negociation for solving the conflict...

Traditional and artisan cheese-makers

- The size of the cheese processing units is also an important issue as artisan, small scale and on-farm processors are part of a lot of PDO systems.
- A particular pattern : the « **fruitières** » in Alps, Jura and Franche-Comté (influence of Swiss tradition)
Traditionnally, every breeder has few cows and for making a cheese, needs to mix his milk with the neighbors.
The group creates a Fruitière and hire a cheese-maker.
Ancient setting remaining till now.

On-farm processors : « fromage fermier »

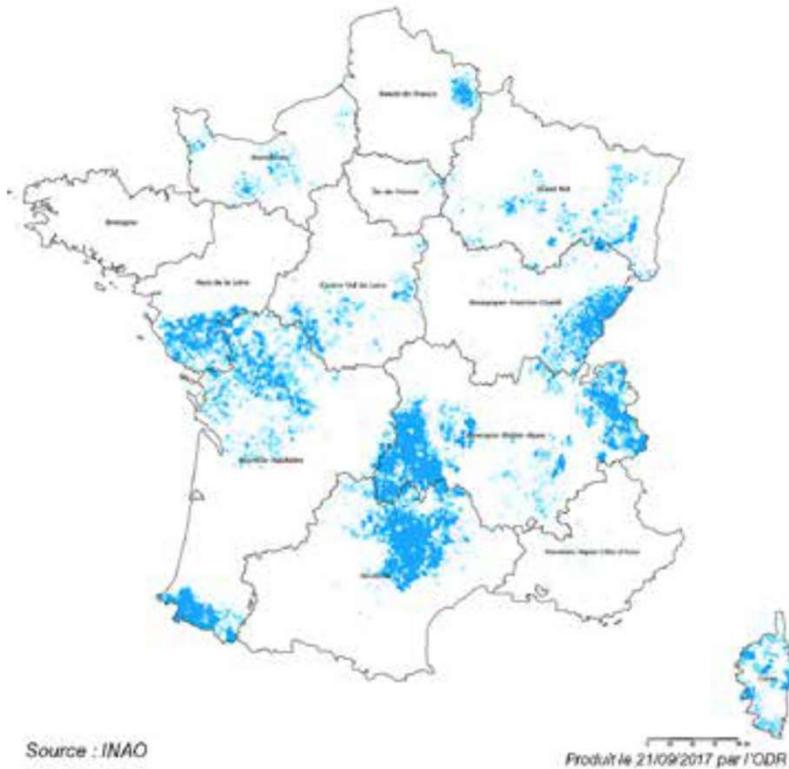
- More than **20%** of the French on-farm processors are producing PDO cheeses.
- Even if people in [short chains + direct selling] have no real utility for PDO / they manage their reputation through inter-personal relationships (« domestic city »).
- On-farm PDO cheeses represent **8,25 %** of the total PDO cheeses. This proportion is increasing every year. The most frequent units are in **Saint-Nectaire**, **Reblochon**, **Salers** (mandatory), **Abondance** and **Munster**.
- For **Saint-Nectaire** and **Reblochon**, they benefit of a distinction (green casein pastilla) within the surface of the cheese.

Rooting the processing activity

- The spatial distribution of the 400 units and 1250 on-farm processors within all the rural areas concerned confers to this production a major role in terms of sustainable development.
- A unique case in the French PDO cheeses :
The « fruitières » of **Comté**.
- Limit of transportation of the milk for making the **Comté** PDO cheese, up to **25 km** from the processing unit.

Avoids the concentration in huge units, enhances the effects of location (the « crus »), protects the employment in the rural areas.

Spatial distribution of PDO cheese operators



**Number of certified operators
by municipality**

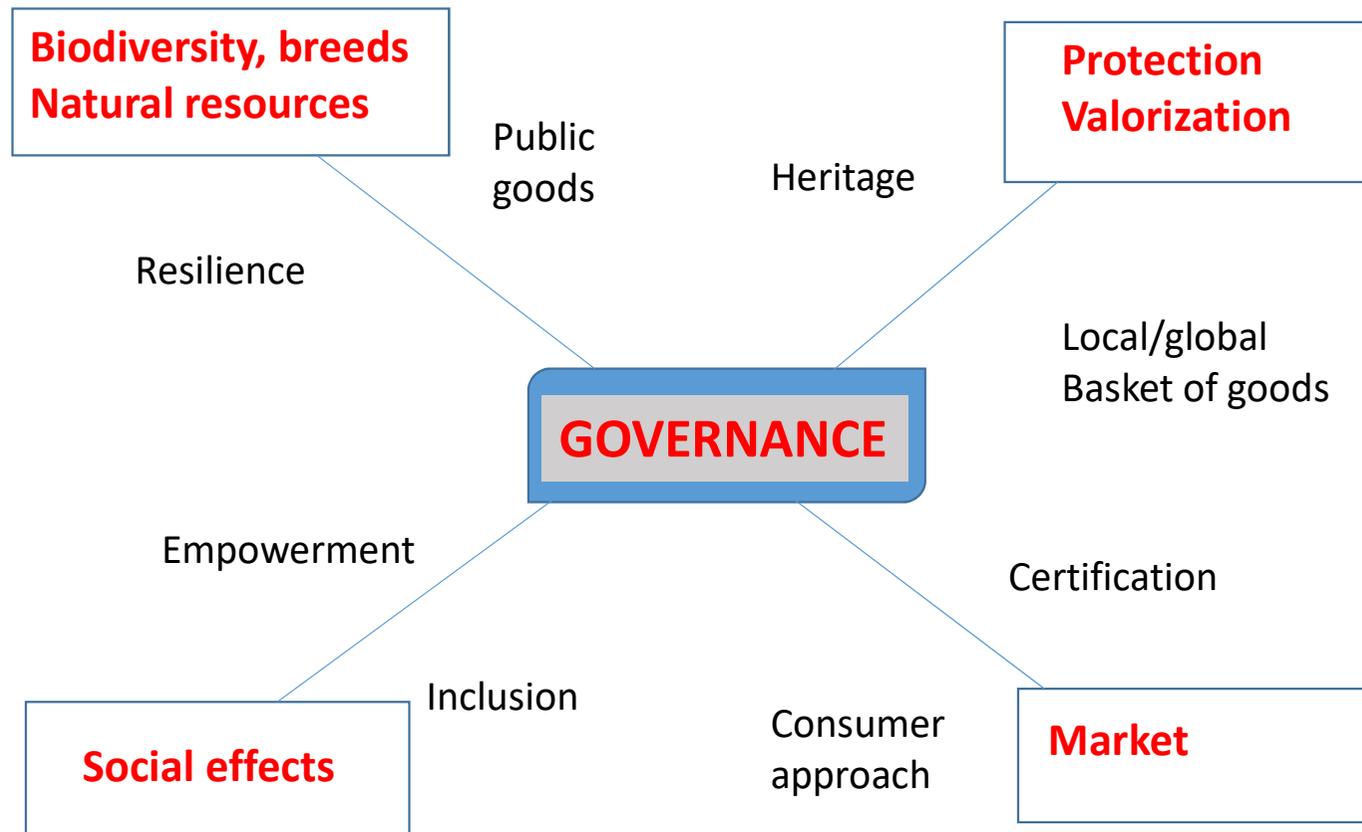
Number of municipalities

<= 1	2364
1 – 2	1084
2 – 4	1001
> 4	1188

Main stakes for knowledge production strategy

- New tools for traceability of milk and cheese / location and production methods
- Interactions genotypes x environment (including practices) / specification evolvments
- Native flora of raw milks, local starters/ sources and roles in the process / providing microbiota for humans
- Links with cheese aromas and flavours / learning processes with young people
- Relevant markets and access conditions / Distribution of value added within the chain
- Governance of the PDO system (local democracy) / Relationships with the territory
Sustainability, agro-ecology, heritage management, « basket of goods » at territorial level.
- *RMT Fromages de terroir / GIS Filières fromagères sous indication géographique*

A conceptual framework toward more sustainable PDO cheeses



Thank you
for your attention

