



WORK PACKAGE 4
DAIRY SECTOR ANALYSIS

Analysis of the dairy sector in Nouvelle-Aquitaine: skills and dynamism



December 2018



PART 1

DAIRY PRODUCTION IN NOUVELLE-AQUITAINE

Nouvelle-Aquitaine has a population of 5.9 million inhabitants (on January 2016), making it the 4th most populated region in France. It is also a rural region with a low density of population: 70.7 inhabitants/km² in 2016 (metropolitan France has 118).

The region has a more or less altered oceanic climate. Most areas (Charentes to Landes) have an Aquitaine oceanic climate. Poitou has a Paris oceanic climate, Limousin has an oceanic climate, tinged with semi-continental influences and western half of the Pyrénées-Atlantiques and southern Landes have a ‘Basque microclimate’, which is wetter. The Pyrenees has a specific climate, known as the Pyrenean climate, that varies depending on altitude.

Nouvelle-Aquitaine: a very recent patchwork making it the first agricultural region in France

Nouvelle-Aquitaine is a large region established in 2016 after the grouping of 3 former regions, Aquitaine, Limousin, and Poitou-Charentes, known for their crops and diverse livestock farming.

It counts 4.2 million ha of UAA (2.8 M ha of forests), which represents 15% of the total UAA in metropolitan France, and 70,700 farms in 2016, which represents an average yearly turnover of €10 billion/year.

Many agricultural systems, yet less dairy farming

The region is the first or second French region in viticulture, oilseeds, beef, sheep production, goat’s milk, and palmipeds.

It yet only accounts for 5.1% of national collections of cow’s milk: 1.25 billion litres produced, i.e. 4% (€400 M/€10 billion) of the regional production.

While the northern most area of production has close ties with the Pays de la Loire, Nouvelle-Aquitaine shows the same decrease in dairy production as in Occitania (Fig. 1).

The main areas for dairy production in the north and centre of Nouvelle-Aquitaine are located in ‘intermediate areas’ (areas of low potential where the grain yield is lower than national average). Milk crises have had an impact on the number of dairy farms: since 2009, the number of farms closing has doubled when compared to the number of farms in the region (-37% and -16%, respectively). This fast restructuring has resulted in a decrease of over 20% over the whole period of production. The remaining farms have barely expanded or increased their production (+4.5% per year between 2009 and 2017, or +110,000 litres per collection point).

N.B.: the dairy sector in Nouvelle-Aquitaine also includes processors that collect and process high quantities of goat milk (220 M of litres collected - 48% of national production) and sheep’s milk (57 M litres - 22% of national production), which enables a steady production despite a decline in dairy cow production.

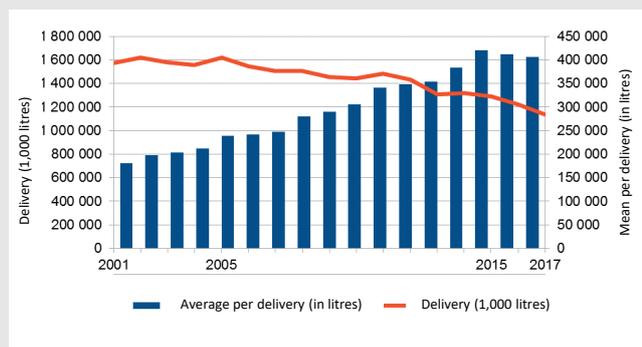
Very few dairy farms: a decrease twice as fast than other productions

The output of milk has been too high and has not allowed enough time for the remaining farms to restructure and take over the production in good conditions (Tab. 1).

Commercial maize crops and poultry-palmiped farms with SIQO designation (official signs of quality and origin) have replaced milk in the former Aquitaine, cereal in the North of former Poitou-Charentes and meat in Limousin.

In mixed farming areas, those who had the opportunity to expand their land chose crops, especially as labour was becoming a limiting factor. The prospects of having to invest heavily to meet standards or to expand production greatly influenced the decision to stop dairy activities, especially as other productions are possible in the region. The disappearance of the ‘dairy atmosphere’ greatly contributed to this in some areas. Finally, the milk crises of 2009 and 2015–2016 also discouraged investors.

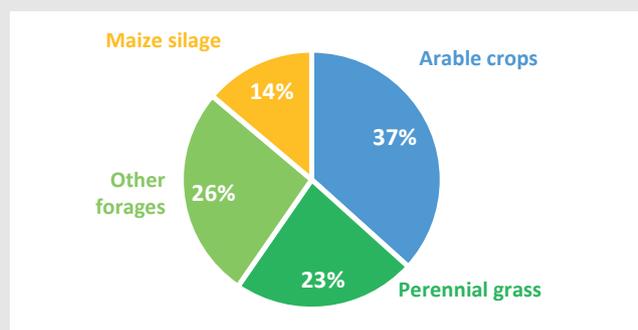
FIG.1: EVOLUTION OF MILK DELIVERIES IN NOUVELLE-AQUITAINE, FROM 2001 TO 2017
Source: Agreste Nouvelle-Aquitaine



Dairy farms use less than 7% of the total UAA

On average, arable crops (cereals, oilseeds, and protein plants) represent over a third of the UAA (Utilized Agricultural Area) of dairy farms, which highlights the presence of mixed farming systems (Fig. 2). However, disparities exist between dairy regions: arable crops are more present in the North of Nouvelle-Aquitaine (52%) than in the Massif Central area (8%).

FIG.2: LAND USE OF DAIRY COWS FARMS IN NOUVELLE-AQUITAINE - 2016



Location of the dairy production

In 2016, the DRAAF Nouvelle-Aquitaine (Regional Directorates for Agriculture, Food and Forestry) created a map of the stocking rate of dairy cows by municipality: 5 areas of production were defined and delimited by cantons (2015 division), based on areas of high density (Fig. 3). These dairy areas (North of Nouvelle-Aquitaine, Limousin-Charentes; Centre Aquitaine; Massif Central; South-West) account for 98% of farms (>10 cows) and cows in the region.

Over half of the farms are located in the North (North Aquitaine and Limousin-Charentes), with a quarter located in the lowland, hill and highland areas of the South-West (Fig. 4). The remaining quarter is distributed along an area going from the north of Creuse to the southwest of Dordogne (Massif Central and Centre-Aquitaine areas).

FIG.3: LIMITS OF THE 5 DAIRY AREAS IN NOUVELLE-AQUITAINE AND DENSITY OF DAIRY COWS HERDS BY CANTON

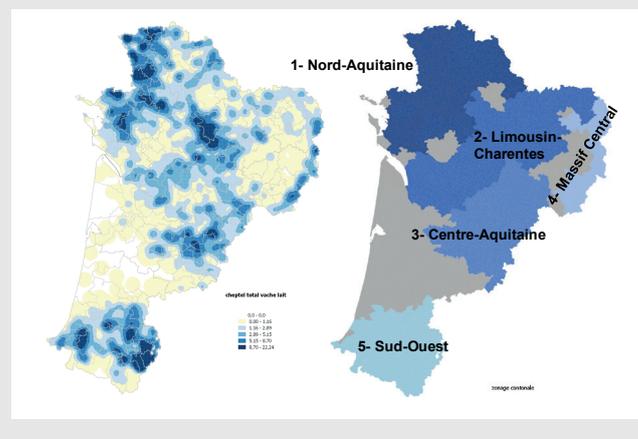
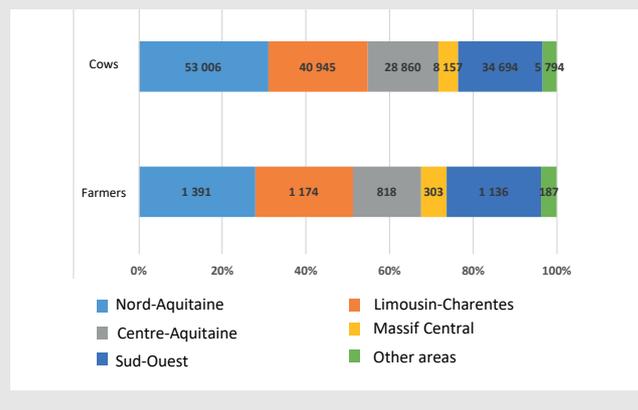


FIG.4: DISTRIBUTION OF FARMERS AND DAIRY COWS IN THE 5 DAIRY AREAS IN NOUVELLE-AQUITAINE

Source: SRISSET – DRAAF Nouvelle-Aquitaine



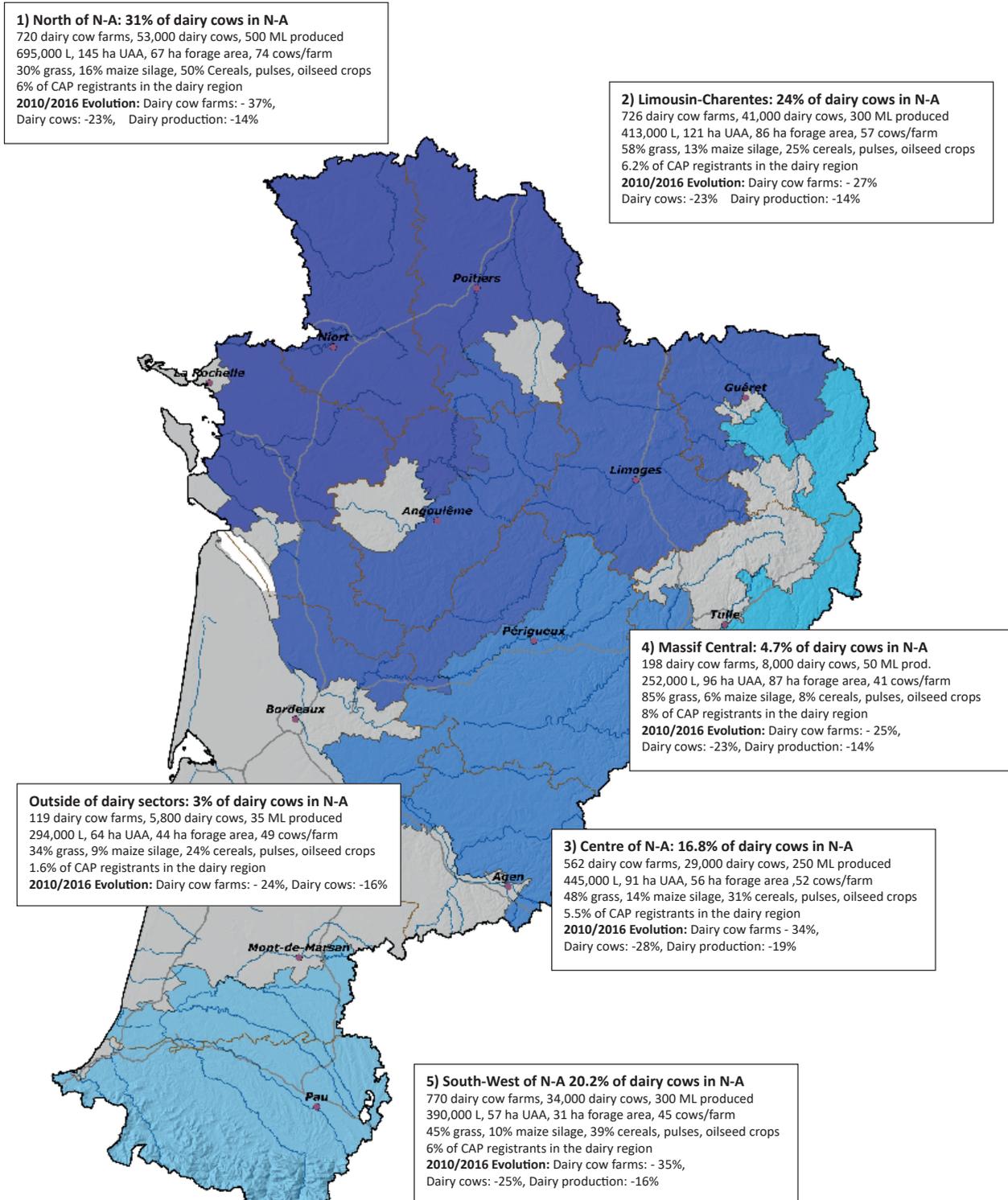
TAB.1: DAIRY PRODUCTION IN NOUVELLE-AQUITAINE - 2010 AND 2016 KEY FIGURES

	2010	2016	Evolution
Number of farms (>10 dairy cows)	4,592 (including 130 cheese producers)	3,095 (including 120 cheese producers)	-33%
Nb of dairy cows	225,993	171,456	-24%
Dairy production	1,472,009 L	1,252,619 L	-15%
% of all CAP registrants	7%	5%	-28%
% of UAA used by dairy cow farms	10.5%	8,5%	-19%
Average milk yield (L/cow/year)	6,513 L	7,305 L	+12%
Average herd size	49 cows	55 cows	+12%
Average quantity delivered per farm	320,000 L	405,000 L	+26%

It is worth mentioning that the number of cheese producers is stable, the vast majority is located in the Pyrénées region.

FIG.5: DAIRY AREAS IN NOUVELLE-AQUITAINE (N-A) – KEY FIGURES.

Source: Pôle Etudes, Prospectives et Valorisations des données, CDA 87, 2018



PART 2

DAIRY SYSTEMS IN NOUVELLE-AQUITAINE

Maize-based systems are self-sufficient in energy but deficient in protein

Grazing systems are a minority (except in the Massif Central area that produces less than 5% of the milk in the region). Heifers and dry cows are the only ones to graze in most farms. As herds grow, it is less and less frequent to see lactating cows grazing.

Milk is mostly produced in systems using maize (dairy farmers grow nearly half of the maize produced in the region on 3% of the UAA in Nouvelle-Aquitaine).

Concentrates: especially protein ones, are used heavily: over 250 g/litre of milk.

In the two main areas of production (North and South-West N-A), stocking density is particularly high: over 2.2 LU/ha of forage area.

But beware of each area’s specificities

Herds are larger in the North (74 cows/farm), but smaller in the Massif Central and the South-West (41 and 45 cows/farm, respectively).

UAA is much larger in the North: this can be explained by the development of commercial crops in this area and the centre of Nouvelle-Aquitaine, but also the extensive grazing systems in Limousin-Charentes area. Almost all dairy farms in the Massif Central are grass-based. Farms in the South-West are grass-based in the foothills and the Pyrénées areas, and maize/grass-based in the lowlands.

Many farms still combine different activities, such as several herbivore productions in grassland areas, or herbivore/off-land productions in areas known for mixed farming. However, farms are increasingly specialised due to the lack of family labour.

Dairy crises have weakened economic performances

The figure 6 shows the evolution of the pre-tax profit (PTP) per Family Work Unit (FWU), including the gross operating surplus (GOS)/gross product ratio.

Over a 30-year period, we clearly notice disruptions during the 2009 crisis and some discrepancies between areas and production systems.

Farms are less resilient in the North of Nouvelle-Aquitaine

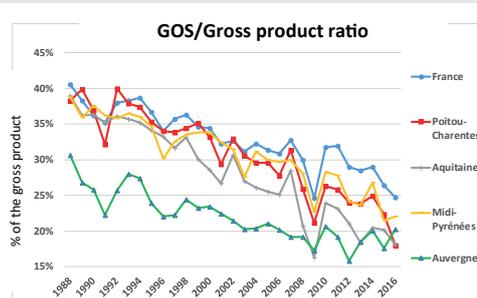
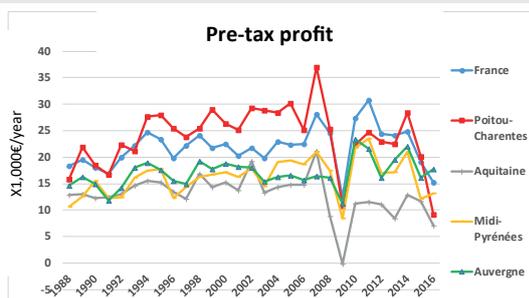
Before 2009, large mixed or specialised farms in the North had higher incomes than the other areas of production in Nouvelle-Aquitaine. €25,000 against €15,000 over a period from 1988 to 2008.

However, since 2009, incomes have decreased, as they have become very much subject to market volatility. Production costs are no longer competitive in this new context, as significant changes are needed to reduce them: self-sufficiency in fodders; management of structural costs (building, milking, mechanisation, etc.); financing and risk management; better use of milk (sanitary quality, contractual procedures, official signs for quality and origin, etc.).

Lower incomes in Centre Aquitaine and South of Limousin-Charentes areas

For 30 years, the incomes of producers in these areas have been among the lowest in France, despite their above-average economic size. This is due to their economic efficiency (GOS%GP), but also the way investments are made (very poor RCAI%GOS ratio). These results largely explain why there is a greater decline in dairy farming than elsewhere. Like in the north of N-A, maintaining a dairy production requires a complete reorientation of systems.

FIG.6: EVOLUTION OF PRE-TAX PROFIT AND OF GROSS OPERATING SURPLUS/GROSS PRODUCT RATIO FOR DAIRY COW FARMING IN NOUVELLE-AQUITAINE, FROM 1988 TO 2016
Source: RICA-SSP



Low incomes but resilient farms in the South West

Since the end of the 1980s and until the crisis of 2009, the incomes of dairy farmers in the South-West were among the lowest in Nouvelle-Aquitaine. However, since 2014, they caught up and exceeded the other areas of production. This helped them against the shock caused by the 2015/2016 crisis.

Their economic efficiency (GOS%GP) recovered that year whereas it deteriorated elsewhere, except in the Massif-Central area (see below). If these results are confirmed, we could argue that this decline could slow down or even stop if milk was promoted in a better way.

Farms are more resilient in the Massif-Central area

Dairy farms in the Massif Central have by far the lowest economic efficiency in the region: GOS%GP ratio is 24%, compared to 28–30% elsewhere. This is essentially due to the pedoclimatic conditions of these areas. However, due to smaller holdings and investments in relation to these conditions, incomes are higher than the other southern areas of production.

Since the 2009 crisis, incomes in the Massif Central have recovered better than elsewhere in the region. In 2016, they were even higher than the national average. In the current context of low volatile prices, farms in the Massif Central are more resilient than the North or the centre of Nouvelle-Aquitaine.

PART 3

DAIRY PROCESSING IN NOUVELLE-AQUITAINE

Cow's milk is diversified but mainly in products with low added value

Many official signs identifying quality and origin (SIQO) exist: Beurre Charentes-Poitou, Tomme des Pyrénées, Salers, Cantal and Bleu d'Auvergne. Overall, PDOs (protected Denomination of Origin) are less present, as only 8% of farms with at least 5 cows are involved (source RA2010), compared to a national average of 12%.

The organic farming herd is estimated at 4,000 dairy cows in 2016 in the region, which represents 2.1% of the French herd in organic farming. In Nouvelle-Aquitaine, the collection of organic milk is estimated at 14.4 millions litres in 2016, which amounts to 1.2% of the total milk delivered by farmers in the region. Organic farming is less present than elsewhere in France, as organic milk represents 2.4% of all deliveries. However, regional collection is constantly increasing, having quadrupled in fifteen years.

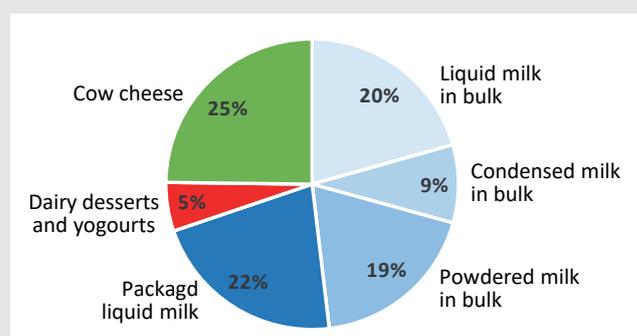
70% of cow's milk is processed into liquid milk or powder, which are products with low added value (Fig. 7).

Derivative and supplement products such as butter, cream, whey, buttermilk, casein, etc. provide additional added value, but their production remains limited.

Nouvelle-Aquitaine:

- 5% of the collection,
- Over 10% of liquid milk and powders nationwide,
- Less than 3% of cheeses nationwide.

FIG.7: PRODUCTS MADE BY DAIRY COMPANIES IN NOUVELLE-AQUITAINE



Estimated distribution of cow's milk volumes used for the different products by the processing sites located in the region in 2016. By-products of the dairy industry (whey, buttermilk, casein), butter and cream are also included.

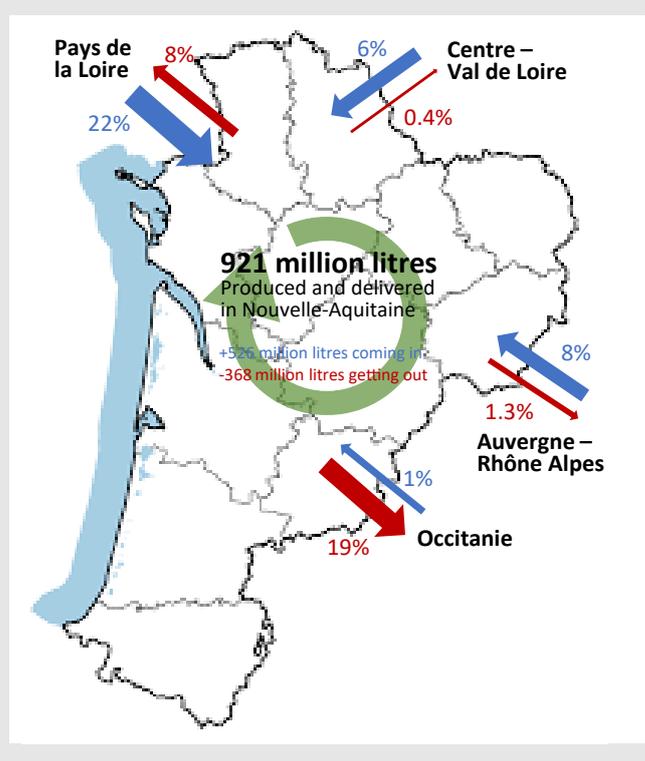
The region processes more cows' milk than it produces

The Over 70% of the milk produced in Nouvelle-Aquitaine is delivered in the region, and 26% of cow's milk used by local companies comes from neighbouring regions (Fig. 8). In 2015, 1,290 million litres of milk was produced in New Aquitaine and dairy plants processed 1,440 million litres, i.e. a positive balance of around 150 million litres. Cow's milk is essentially transferred between the Pays de la Loire (import) and Occitania (export) regions.

80% of milk is collected by large cooperatives

The region has 80 dairy processors that process cow, goat, and sheep milk. This is the 3rd largest food industry in the region and generate 3,800 full-time equivalent jobs. Cow's milk is collected by 58 companies, 1/3 of which are located in the Deux-Sèvres department. The main co-operatives and private companies operate nationally: SODIAAL, TERRA LACTA, EURIAL-AGRIAL, including SAVENCIA, LACTALIS and DANONE alongside local companies: Chavegrand, CLS, Pamplie, Pechalou. These processors collect over 900 million litres of cow's milk, 80% of which is collected by cooperatives.

FIG.8: MILK PROCESSED IN NOUVELLE-AQUITAINE
Source: Agreste Nouvelle-Aquitaine



PART 4

SWOT ANALYSIS OF THE NOUVELLE-AQUITAINE DAIRY SECTOR

S	W	O	T
STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • A good network of strong dairy holdings • Manure spreading made possible as livestock areas not saturated • Relative farm size, in accordance with consumers' expectations (however some areas: few dairy cows in fields) • Balance, synergy, and potential for food self-sufficiency with our mixed farming systems. 	<ul style="list-style-type: none"> • Low milk density and loss of 'dairy atmosphere' in some areas • Lack of labour and saturated production factors • Insufficient mix of added value products given production costs • Few segmented products that could maintain production in the region (only 4 SIQOs which only cover certain areas (AOP Beurre Charentes-Poitou; AOP Cantal and Bleu d'Auvergne; IGP Tome des Pyrénées)) • Different productions compete on the farm 	<ul style="list-style-type: none"> • A rapidly growing population, increasing potential for local food and foodservice markets. • Potential for diversification of income on the dairy farm (solar panels, methanisation, tourism) 	<ul style="list-style-type: none"> • Lack of dairy farmer replacements • Continued decline in dairy farming if cannot increase the added value for farmers and improve the economic efficiency of our systems. • Health hazards



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Project funded by the Interreg Atlantic Area Program

