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Milk recording results of Sheep
France 2019
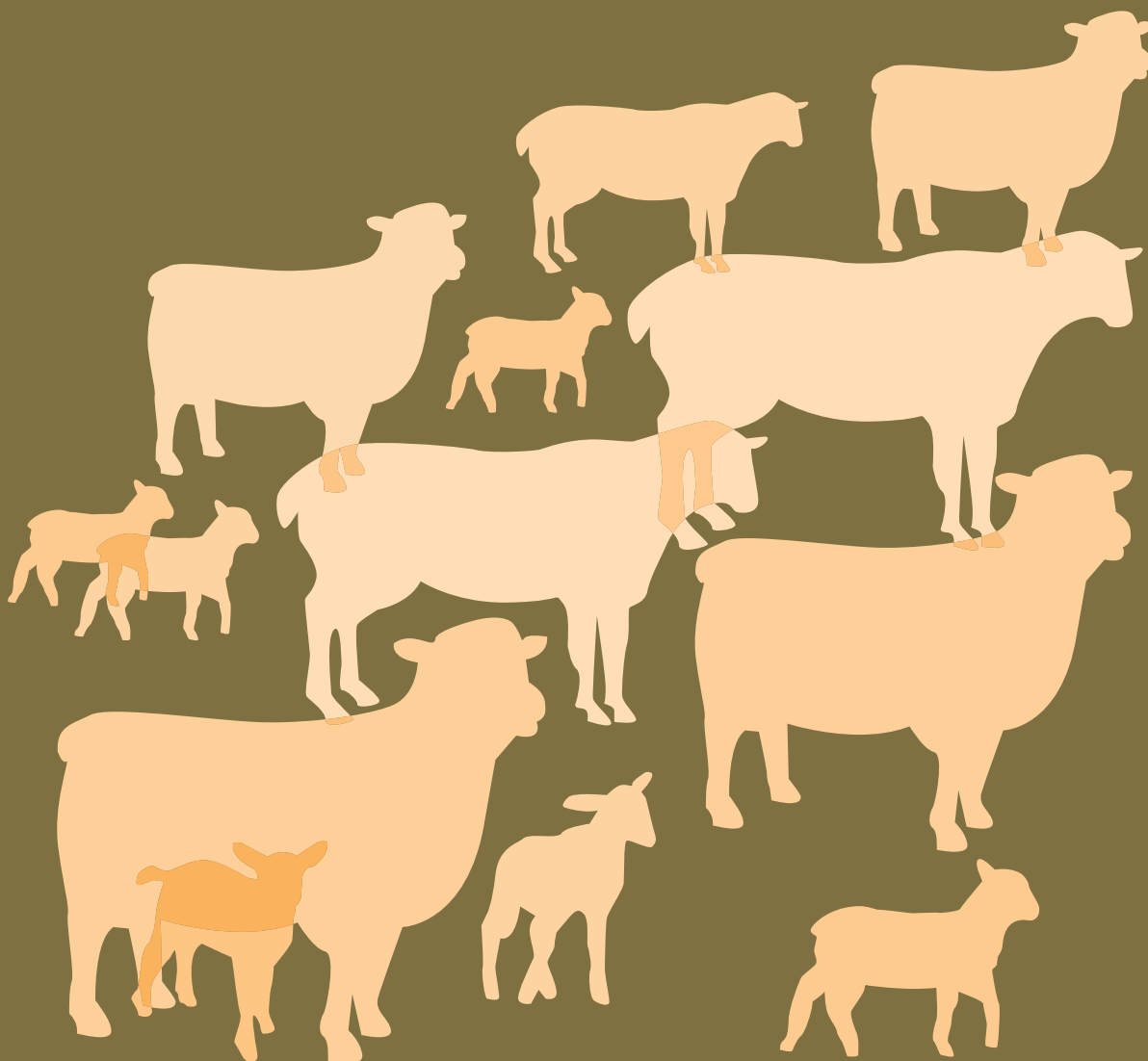
C N B L
Comité National Brebis Laitières

Milk recording results - Sheep
France – Year 2019

Source of pictures:
OS Lacaune
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Introduction

The research and development process in genetic improvement of dairy sheep successively dealt with productivity of ewes and herds (during the 70s and 80s), chemical milk composition and its suitability for cheese production (during the 80s and 90s), finally functional abilities such as resistance to subclinical mastitis and udder morphology (2000 decade). These functional characteristics enable the animals' functional longevity to be improved. This improvement matches with their ability to postpone their culling for other reasons than those linked with their milk yield level. In other words, functional longevity contributes to have flocks with a better cost-effectiveness, not by increasing takings, but by decreasing production costs through reduced early culling. Genomics has been fully involved during these last years in dairy sheep breeding schemes with, on one hand, the selection for resistance to scrapie thanks to the genetic typing of the PrP gene widely implemented right at the beginning of the 2000s, on the other hand genomic breeding prospects which are subject to Roquefort'in (Lacaune breed) and Genomia (Pyrenean dairy sheep breeds – Manech and Basco-Béarnaise) programmes. Since 2015 (choice of young rams at the end of 2014), Lacaune breed implemented a genomic selection with a new scheme design.

The genetic improvement of dairy sheep within the three French traditional breeding areas ("Rayon"de Roquefort, Pyrénées-Atlantiques, Corse) is based on the breeding of local breeds within their own production area and systems. This principle is strengthened by the French AOC label (which guarantees the origin of a product) of each area. This label requires the local breed as the genetic material to be used for the cheese production of Roquefort (Lacaune breed), of Issau-Iraty (Basco-Béarnaise and Manech breeds) and Brucciu (Corse breed). The implementation of dairy sheep breeding programmes is based on milk recording and progeny testing of animal insemination rams. It has systematically been well-reasoned in order to increase its efficiency-cost ratio

Pyramidal structure of the population
Breeds' population is organized on the basis of a pyramidal structure made up of breeders, creators of the genetic gain and farmers using genetic gain, in order to select the local breeds in population-wide terms. Selection tools are gathered in flocks of breeders who are registered at the official milk recording organizations. These tools include qualitative recording and breeding animals' qualification with possibly udder scoring. Breeding flocks serve as a testing medium and provide the breeding centers with young rams. Testing has been developed in order to maximize breeding schemes. The effort required for its implementation is considerable as (depending on the breeds) 50 to 60 % of the inseminated ewes within a flock under breeding are inseminated with tested rams. Breeders receive as compensation inseminations with the elite rams, i.e. the sires of the breed's rams. If they wish it, the breeders who use the genetic gain may receive a simplified milk recording. Its objective is firstly to get a within-flock ranking of the ewes, but also the technical monitoring of the dairy flock.

Rationalization and optimization over the time
Breeding objectives have been planned gradually. Official milk recording implemented in the 60s was at the beginning only a quantitative control (milk yield) due to the industry needs of milk on one hand, and because of the low initial productivity of the French local breeds on the other hand. The first objective was clearly to increase ewes' productivity. The breeding criteria taken in consideration was the milk yield during the milking period which steps up fat and protein contents quantities, and thereby cheese quantities.
Such an objective may be accepted during the start-up period of the breeding scheme. However, when this objective is fully operational and becomes completely effective (in the 80s for the Lacaune breed, in the 90s – 2000s for the Pyrenean breeds), the milk quality (fat and protein contents) deteriorates on a genetic level speaking. Thus, it is becoming essential to be interested in the chemical quality of the milk also in order to know about cheese yield and the fat/dry ratio of cheese in the framework of AOC cheese produced with raw milk and whole milk. That's why a qualitative recording was to be performed, although it is difficult and expensive to implement in dairy sheep because of the flocks' size and the rapid mechanical milking routines.
Finally, when the context of the industry was such as productivity was no longer directly looked for, breeders became then interested in functional characteristics which are going to enable to decrease production costs and to improve work conditions, especially milking conditions which represent the first work station of dairy ewes' breeding.
Today, farmers and stakeholders of selection schemes raise the question of hardiness and plasticity and evoke the wish to work on resistance to gastro intestinal parasitism, dairy persistency, ability to one-milking per day, feed efficiency, but also the ability to transhumance and at the valorization of rangelands.

Milk recording simplification

The official AC design (monthly recording of one of the two daily milkings, whatever the milking) has been widespread. The qualitative recording has been even more simplified. Only a part of the ewes is recorded: the primiparous (Pyrenean breeds) or the first two lactations (Lacaune breed). Only the middle of the lactation is controlled, because it is the most representative period from a genetic point of view. Thus, the objective is to carry out three samples at the first four test-days of the ewe during the morning milking. The morning milking enables a better milk sampling, especially of the fat content and somatic cells. The partial recording as described here above enables to save about 85% of the samplings and analyses in order to get an efficiency a bet lower (the loss of precision may easily be compensated for rams by increasing the testing daughters' number by about 10%), compared to the exhaustive A4 recording method (on a monthly rhythm for the two daily milkings and for all the ewes on milking). This process is also systematically used for functional characteristics.

Table 1 : Evolution of the main criteria related to breeding schemes for the 3 French breeding areas

| | | Official milk recording (OMR) | | | | Simplified milk recording (SMR) |
		Number of recorded ewes (% of the OMR population)	AI rate in the nucleus	Number of progeny-tested rams	Milk yield in liters (lactation duration)	Number of recorded ewes
1985	Rayon	113 519 (17%)	70%	430	186 (162)	311 000
	Pyrénées	38 026 (12%)	30%	52	92 (127)	13 000
	Corse	7 300 (7%)			88 (151)	
2005	Rayon	176 936 (21%)	81%	477	277 (163)	585 000
	Pyrénées	108 836 (23%)	55%	200	158 (146)	32 000
	Corse	20 408 (20%)	39%	40	124 (181)	
2019	Rayon	188 696 (19%)	86%	277	330 (173)	511 667
	Pyrénées	120 492 (28%)	49%	247	234 (159)	45 845
	Corse	20 206 (24%)	37%	22	148 (186)	14 944

Data processing

Annual results of the sheep official milk recording are calculated from an extract of the French national dairy sheep database used for indexing and research, which is part of the SIEOL Information System. This extract was performed at the end of the dairy sheep year in December 2019. Thus, these results concern the year 2019. Regarding the seasonality of the dairy sheep production in France, all lactations are considered as finished and qualified if they are calculated.

The results are presented by breeding area, French local administrative area (=French "département"), Milk Recording Organization (MRO), Performance Testing organization and by breed. Here are the definitions of these terms:

Breeding areas: 1 = 'Rayon de Roquefort' ; 2 = 'Corse' ; 3 = 'Pyrénées-Atlantiques'.
French local administrative areas: 11, 12, 2A, 2B, 30, 34, 48, 64, 65, 81, 82.
Milk Recording Organizations (=MRO): 'CDEO', 'Confédération Générale de Roquefort', 'EDE 48', 'EDE 81', 'EDE 82', 'SCP 30-34', 'SUAE Corse du Sud', 'SUAE Haute-Corse', 'UNOTEC 12'.
Recognized Performance Recording Organizations (=RPRO): 'CDEO', 'OS Lacaune', 'EDE 82', 'SUAE Corse du Sud', 'SUAE Haute-Corse'.
Breeds: 'Lacaune', 'Manech tête rousse', 'Manech tête noire', 'Basco-Béarnaise', 'Corse'. Other breeds representing less than 50 ewes nationwide are not taken into account in these results.

NB : In paragraphs 2.2 to 2.6, maps only show French local administrative areas where at least 10 lactations haven been calculated for the corresponding breed.

Warning:
Results between breeds or populations (Basco-Béarnaise, Corse, Lacaune, Manech Tête Rousse, Manech Tête Noire) should not be compared, mainly for two reasons:
  - Each breed is represented only in one breeding area. Therefore, genetic type and dominant farming system(s) of each French administrative region are closely linked.
  - The calculation of milk yield at milking period varies from one region to another (and for breeds accordingly), in relation with the average suckling length, depending on the farming system:
     - 25 days in the area of Roquefort,
     - 35 days in the Pyreneans area and in Corsica.

Some definitions :

    Total number of ewes: ewes present in the flock at the beginning of the lambing period.

    Number of ewes in lactation: ewes for which calculating a lactation has been possible (so this total takes into account ewes that had at least one test-date with non-null milk production record).

    Number of ewes that lambed: ewes with a date of lambing, non-pregnant ewes, aborted ewes without milk and not mated ewe in 1st lactation are therefore excluded from this total.

    Lambing rate: number of ewes which lambed divided by the total number of ewes (expressed in %).

    Lactation rate: number of ewes with calculation of lactation divided by the number of ewes which lambed (expressed in %).

    Milk yield: it represents the milk yield at the milking-only period.
    This milk yield is calculated only on the period of exclusive milking of the animal after the weaning of the lamb(s), and doesn't take into account the milk yield during the initial period of suckling or suckling x milking. So the **milking duration** matches only to this milking-only period. The milk yield is expressed in liters and the length in days.

    The official milk recording is an AC milk recording protocol, i.e. a monthly control of one of the two daily milkings, without any obligation of rotation. However, the recording occurs mainly in the morning because the sampling for the qualitative control is more precise during the morning milking (more milk in the morning).
    Results for fat and protein contents are not provided. The sheep qualitative control is indeed a very simplified control (partial qualitative recording). It is based on a sampling performed only at the milking of the morning, on 3 recordings during the middle of the lactation and it concerns only a part of the flock (the primiparous or the first 2 lactations, depending on the breed). The way of recording and calculating the fat and protein contents are relevant for genetics, but are not representative of current economic reality.

Trends for 2019

The total number of ewes present at the lambing period reached 329,394 in 2019, that is quite similar to the previous year (+ 0,1%). At the same time the total number of ewes with lactation calculation decreased slightly at 278,423 (-0,6%). This overall stability occurs after several years of increasing ewes population (more than 22,000 ewes over the previous 3years).

760 flocks are counted up today in Official Milk Recording, which means a decrease of 8 flocks compared to the previous year. Meanwhile, the average size of flock still progressed in 2019 (433 ewes present at the lambing period in average versus 428 ewes in 2018).

In 2019 the average milk yield is stable for the Lacaune breed (+0.1 liter), is decreasing for the Corsican breed (-12,4 liters) and is increasing for the Pyrenean breeds (4.1 to 10 liters). At the national level the milk yield reached 286.3 liters in 169 days in milking-only period (+2.1 liters and + 2 days).

A simplified milk recording, corresponding to the D recording method in the ICAR nomenclature and not presented in this document, exists in addition to the Official Milk Recording AC design. It concerns commercial flocks out of the selection nucleus (while the Official Milk Recording is devoted only to breeders involved in the selection program). 1,289 flocks and 572,456 ewes present at the lambing period were submitted to D recording in 2019.
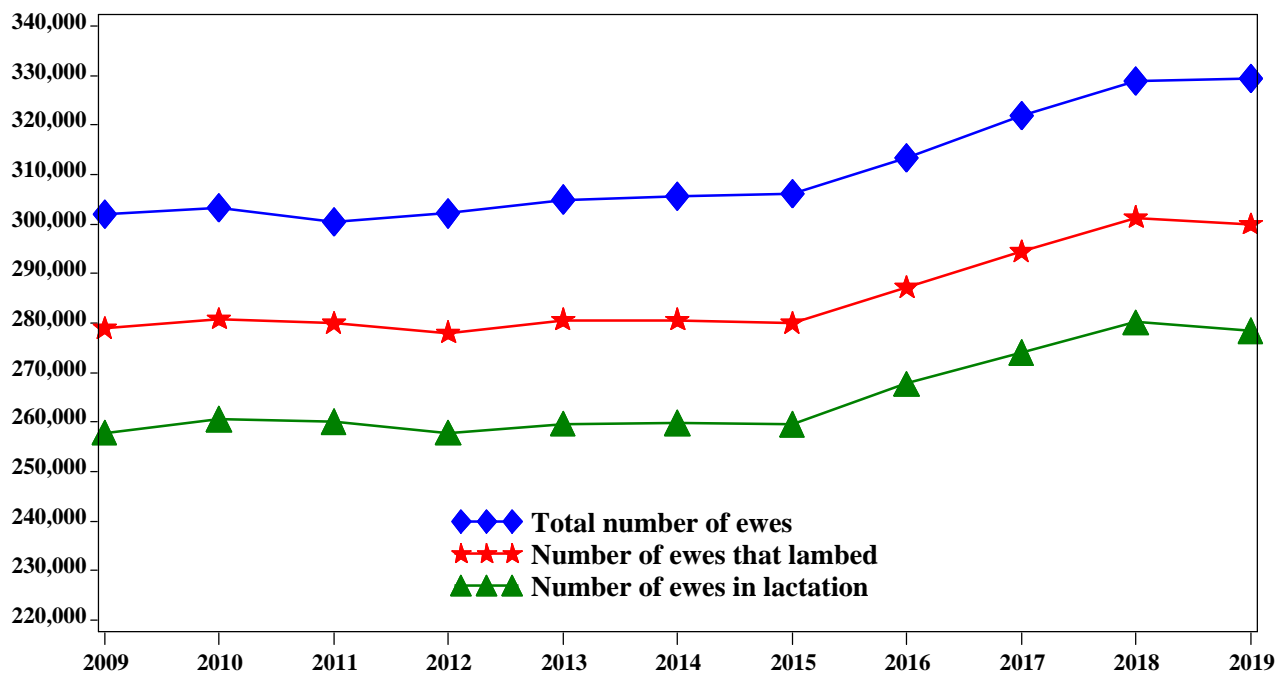
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I - GLOBAL RESULTS

1.1 - Reminder of the previous years

Year	Total number of ewes	Number of ewes that lambed	Lambing rate	Number of ewes in lactation	Lactation rate	Milk yield *liters*	Lactation duration *days*
2009	302,057	278,940	*92.3*	257,798	*92.4*	228.1	161
2010	303,201	280,796	*92.6*	260,629	*92.8*	241.2	161
2011	300,488	279,941	*93.2*	260,029	*92.9*	246.8	162
2012	302,102	277,961	*92.0*	257,826	*92.8*	250.8	163
2013	304,925	280,581	*92.0*	259,666	*92.5*	247.5	164
2014	305,619	280,575	*91.8*	259,791	*92.6*	254.2	165
2015	306,047	280,001	*91.5*	259,589	*92.7*	256.9	166
2016	313,291	287,171	*91.7*	267,737	*93.2*	273.9	166
2017	321,968	294,415	*91.4*	274,003	*93.1*	278.6	167
2018	328,980	301,292	*91.6*	280,117	*93.0*	284.2	167
2019	329,394	299,938	*91.1*	278,423	*92.8*	286.3	169

1.2 - Results of the year

1.2.1 - Distribution by parity

Parity	Total number of ewes	Number of ewes that lambed	Lambing rate	Number of ewes in lactation	Lactation rate	Milk yield *liters*	Lactation duration *days*
1st lactation	**93,319**	75,628	*81.0*	69,541	*92.0*	250.5	155
2nd lactation and over	**236,075**	224,310	*95.0*	208,882	*93.1*	298.3	174
Overall total	**329,394**	**299,938**	**91.0**	**278,423**	**92.8**	**286.3**	**169**

1.2.2 - Number of flocks and average number of ewes per flock

Total number of ewes in lactation	Total number of flocks	Average number of ewes per flock
278,423	760	366.3

1.2.3 - Results per local area

Local area	Number of flocks	Number of ewes in lactation	Milk yield *l*	Lactation duration *d*
Aude	**1**	401	324.6	177
Aveyron	**282**	129,691	328.1	173
Corse du Sud	**18**	2,842	155.9	181
Haute Corse	**40**	14,312	145.9	187
Hérault	**8**	3,250	328.5	177
Lozère	**18**	7,196	319.8	174
Pyrénées Atlantiques	**328**	93,798	234.2	159
Hautes Pyrénées	**1**	147	117.1	108
Tarn	**63**	26,213	342.5	177
Tarn & Garonne	**1**	573	306.2	140
Overall total	**760**	**278,423**	**286.3**	**169**

Distribution of lactations per local area (= French « département »)

Number of lactations	<1,000		>=1,000 & <5,000
	>=5,000 & <10,000		>=10,000
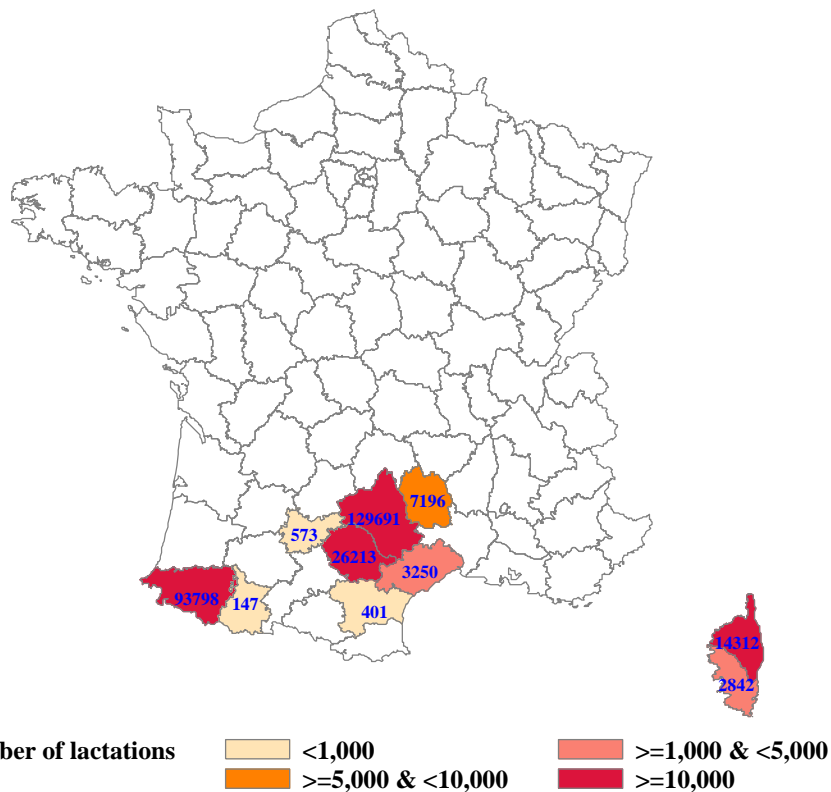
Distribution of flocks per local area

Number of flocks	<10		>=10 & <50
	>=50 & <100		>=100
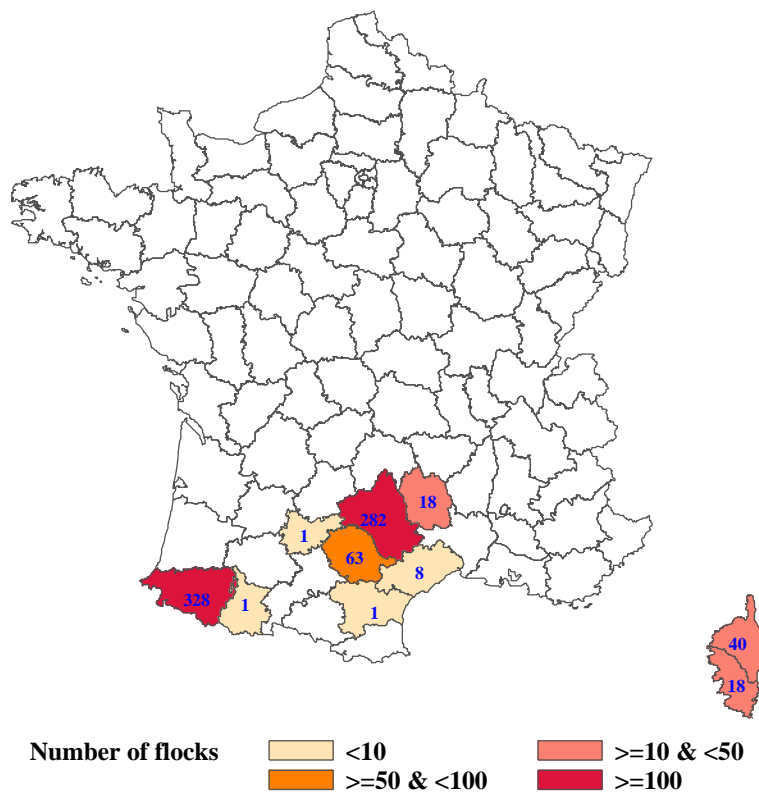
1.2.4 - Results per breeding area and parity

Breeding area[1]	Parity	Number of ewes in lactation	Milk yield _liters_	Lactation duration _days_
01	1st lactation	44,853	277.5	159
	2nd lactation	37,155	349.5	179
	3rd lactation	28,577	369.0	183
	4th lactation	21,845	360.6	181
	5th lactation	15,769	345.5	177
	6th lactation	10,022	326.1	174
	7th lactation and over	8,709	290.6	165
	Unknown	321	277.1	160
Total breeding area		_167,251_	_330.0_	_173_
02	1st lactation	3,137	103.7	138
	2nd lactation	3,136	148.8	187
	3rd lactation	2,622	168.8	203
	4th lactation	2,231	171.0	206
	5th lactation	1,775	165.5	203
	6th lactation	1,303	161.1	203
	7th lactation and over	1,858	142.3	193
	Unknown	1,092	134.4	185
Total breeding area		_17,154_	_147.5_	_186_
03	1st lactation	21,551	215.9	149
	2nd lactation	19,347	246.2	159
	3rd lactation	15,952	255.0	165
	4th lactation	12,634	250.7	167
	5th lactation	9,371	238.0	164
	6th lactation	6,587	223.1	159
	7th lactation and over	6,820	198.2	152
	Unknown	1,756	173.3	144
Total breeding area		_94,018_	_234.1_	_159_
Overall total		**278,423**	**286.3**	**169**

[1]Refer to the Introduction paragraph for details.

1.2.5 - Results per breeding area, parity and month of lambing

Breeding area	Parity	Month of lambing	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
01	1st lactation	January	8,446	262.8	146
		February	6,319	241.3	139
		March	2,150	208.1	118
		April	457	144.9	84
		May	188	236.0	121
		June	41	250.2	133
		July	91	302.4	201
		August	1,058	340.9	197
		September	1,766	333.3	190
		October	6,626	318.7	184
		November	10,752	292.7	170
		December	6,959	272.4	154
	2nd lactation and over	January	17,643	339.7	169
		February	7,715	306.2	146
		March	2,693	259.5	122
		April	932	228.6	111
		May	311	260.3	115
		June	230	333.5	198
		July	873	366.8	190
		August	4,838	372.4	198
		September	9,114	362.5	192
		October	35,741	363.2	190
		November	30,416	355.9	183
		December	11,892	343.7	171
Total breeding area			***167,251***	***330.0***	***173***
02	1st lactation	January	991	96.9	122
		February	566	76.3	94
		March	149	50.9	69
		April	33	29.4	42
		May	1	22.6	29
		June			
		July			
		August			
		September	78	153.2	203
		October	540	140.2	196
		November	328	125.1	180
		December	451	108.0	145
	2nd lactation and over	January	605	118.9	123
		February	423	88.0	94
		March	94	65.9	67
		April	34	26.6	40
		May	1	18.9	17
		June			
		July			
		August	70	145.1	201
		September	4,634	168.4	220
		October	6,257	164.7	205
		November	1,602	143.0	179
		December	297	130.7	148

[1]Refer to the Introduction paragraph for details.

1.2.5 - Results per breeding area, parity and month of lambing

Breeding area	Parity	Month of lambing	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
Total breeding area			*17,154*	*147.5*	*186*
03	1st lactation	January	2,443	199.0	133
		February	2,310	159.6	101
		March	2,658	117.3	74
		April	502	76.6	49
		May	29	45.0	28
		June			
		July	1	275.7	227
		August			
		September	7	239.6	206
		October	2,047	275.5	196
		November	7,073	261.9	183
		December	4,481	229.6	163
	2nd lactation and over	January	3,831	229.1	135
		February	3,409	185.6	101
		March	3,642	138.1	74
		April	783	96.7	52
		May	56	54.9	29
		June	25	335.5	234
		July	2	342.3	225
		August			
		September	35	205.0	191
		October	10,223	256.3	186
		November	37,453	251.9	175
		December	13,008	245.4	159
Total breeding area			*94,018*	*234.1*	*159*
Overall total			**278,423**	**286.3**	**169**

[1]Refer to the Introduction paragraph for details.

1.2.6 - Results per breeding area and flock size

Breeding area	Flock size	Number of flocks	Number of ewes in lactation	Milk yield _liters_	Lactation duration _days_
01	< 200	**5**	863	333.9	171
	>=200 & <250	**14**	3,135	342.9	175
	>=250 & <300	**31**	8,668	322.0	172
	>=300 & <350	**54**	17,689	335.1	174
	>=350 & <400	**45**	16,702	324.4	173
	>=400 & <450	**50**	21,095	331.0	175
	>=450 & <500	**55**	25,980	326.8	174
	>=500 & <550	**37**	19,419	337.1	177
	>=550 & <600	**29**	16,650	321.4	173
	>= 600	**53**	37,050	332.5	170
Total breeding area		_373_	_167,251_	_330.0_	_173_
02	< 200	**29**	3,803	149.9	180
	>=200 & <250	**4**	928	136.0	175
	>=250 & <300	**4**	1,089	152.9	198
	>=300 & <350	**5**	1,587	136.1	194
	>=350 & <400	**4**	1,499	145.1	190
	>=400 & <450	**4**	1,722	148.5	178
	>=450 & <500	**1**	455	175.5	201
	>=500 & <550	**1**	513	138.9	186
	>=550 & <600	**1**	572	148.3	199
	>= 600	**5**	4,986	149.0	188
Total breeding area		_58_	_17,154_	_147.5_	_186_
03	< 200	**72**	12,024	199.1	151
	>=200 & <250	**63**	14,193	222.3	158
	>=250 & <300	**79**	21,923	231.6	159
	>=300 & <350	**47**	15,124	246.4	163
	>=350 & <400	**28**	10,351	241.8	161
	>=400 & <450	**11**	4,666	227.9	154
	>=450 & <500	**13**	6,155	263.7	161
	>=500 & <550	**8**	4,170	251.2	158
	>=550 & <600	**1**	560	293.9	166
	>= 600	**8**	4,852	258.1	160
Total breeding area		_330_	_94,018_	_234.1_	_159_
Overall total		**761**	**278,423**	**286.3**	**169**

[1]Refer to the Introduction paragraph for details.

1.2.7 - Results per milk recording organization (MRO)

MRO	Number of flocks	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
CDEO	329	93,945	234.0	159
Confédération Générale de Roquefort	184	82,586	325.1	173
EDE 48	10	4,579	314.4	169
EDE 81	27	11,290	350.6	179
EDE 82	1	573	306.2	140
SUAE CORSE DU SUD	18	2,842	155.9	181
SUAE HAUTE-CORSE	40	14,312	145.9	187
UNOTEC 12	151	68,296	333.7	173
Overall total	**760**	**278,423**	**286.3**	**169**

[1]Refer to the Introduction paragraph for details.

1.2.8 - Results per milk recording organization (MRO) and local area

MRO	Local area	Number of flocks	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
CDEO	Pyrénées Atlantiques	**328**	93,798	234.2	159
	Hautes Pyrénées	**1**	147	117.1	108
Total MRO		*329*	*93,945*	*234.0*	*159*
Confédération Générale de Roquefort	Aude	**1**	401	324.6	177
	Aveyron	**136**	62,938	322.4	172
	Hérault	**3**	1,707	317.8	187
	Lozère	**8**	2,617	329.3	182
	Tarn	**36**	14,923	336.4	175
Total MRO		*184*	*82,586*	*325.1*	*173*
EDE 48	Lozère	**10**	4,579	314.4	169
Total MRO		*10*	*4,579*	*314.4*	*169*
EDE 81	Tarn	**27**	11,290	350.6	179
Total MRO		*27*	*11,290*	*350.6*	*179*
EDE 82	Tarn & Garonne	**1**	573	306.2	140
Total MRO		*1*	*573*	*306.2*	*140*
SUAE CORSE DU SUD	Corse du Sud	**18**	2,842	155.9	181
Total MRO		*18*	*2,842*	*155.9*	*181*
SUAE HAUTE-CORSE	Haute Corse	**40**	14,312	145.9	187
Total MRO		*40*	*14,312*	*145.9*	*187*
UNOTEC 12	Aveyron	**146**	66,753	333.5	173
	Hérault	**5**	1,543	340.3	167
Total MRO		*151*	*68,296*	*333.7*	*173*
Overall total		**760**	**278,423**	**286.3**	**169**

[1]Refer to the Introduction paragraph for details.

1.2.9 - Results per recognized performance recording organization (RPRO)

RPRO	Number of flocks	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
CDEO	329	93,945	234.0	159
EDE 82	1	573	306.2	140
OS Lacaune	372	166,751	330.0	173
SUAE CORSE DU SUD	18	2,842	155.9	181
SUAE HAUTE-CORSE	40	14,312	145.9	187
Overall total	760	278,423	286.3	169

1.2.10 - Results per recognized performance recording organization (RPRO) and local area

RPRO	Local area	Number of flocks	Number of ewes in lactation	Milk yield *liters*	Lactation duration *days*
CDEO	Pyrénées Atlantiques	328	93,798	234.2	159
	Hautes Pyrénées	1	147	117.1	108
Total RPRO		*329*	*93,945*	*234.0*	*159*
EDE 82	Tarn & Garonne	1	573	306.2	140
Total RPRO		*1*	*573*	*306.2*	*140*
OS Lacaune	Aude	1	401	324.6	177
	Aveyron	282	129,691	328.1	173
	Hérault	8	3,250	328.5	177
	Lozère	18	7,196	319.8	174
	Tarn	63	26,213	342.5	177
Total RPRO		*372*	*166,751*	*330.0*	*173*
SUAE CORSE DU SUD	Corse du Sud	18	2,842	155.9	181
Total RPRO		*18*	*2,842*	*155.9*	*181*
SUAE HAUTE-CORSE	Haute Corse	40	14,312	145.9	187
Total RPRO		*40*	*14,312*	*145.9*	*187*
Overall total		760	278,423	286.3	169

[1]Refer to the Introduction paragraph for details.

II - RESULTS PER BREED

2.1 - Results for all breeds

Breed	Number of flocks	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
Lacaune	374	167,323	**330.0**	*101.9*	173	*40*
Manech Tête Rousse	239	64,406	**246.5**	*94.1*	162	*48*
Basco-Béarnaise	91	21,792	**218.2**	*83.7*	151	*48*
Corse	58	17,154	**147.5**	*63.0*	186	*57*
Manech Tête Noire	69	7,706	**175.1**	*70.4*	151	*45*
Other breeds	27	42	**150.8**	*105.8*	110	*59*
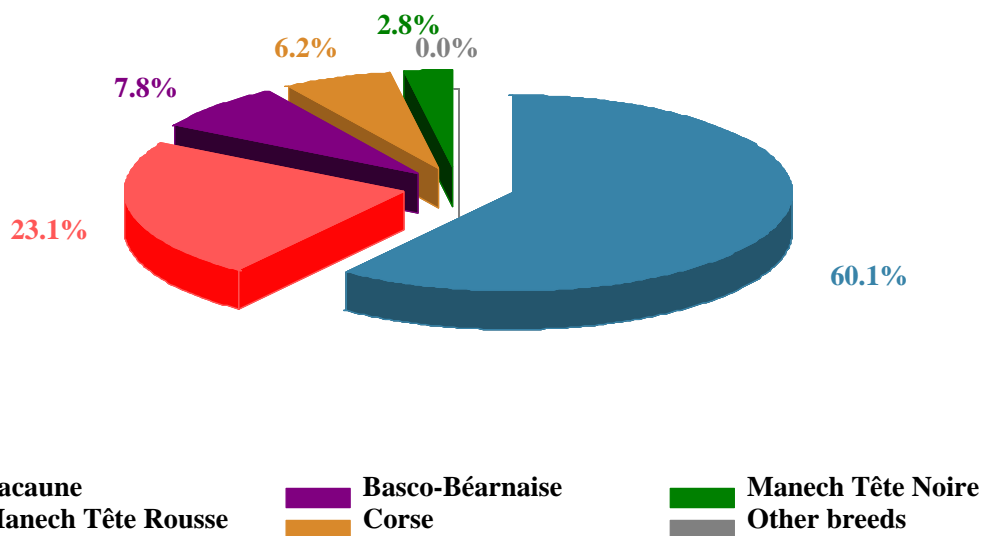
¹Refer to the Introduction paragraph for details.

2.2 - Breed LACAUNE

(French breed code: 010)

Geographical distribution of ewes with lactations of Lacaune breed

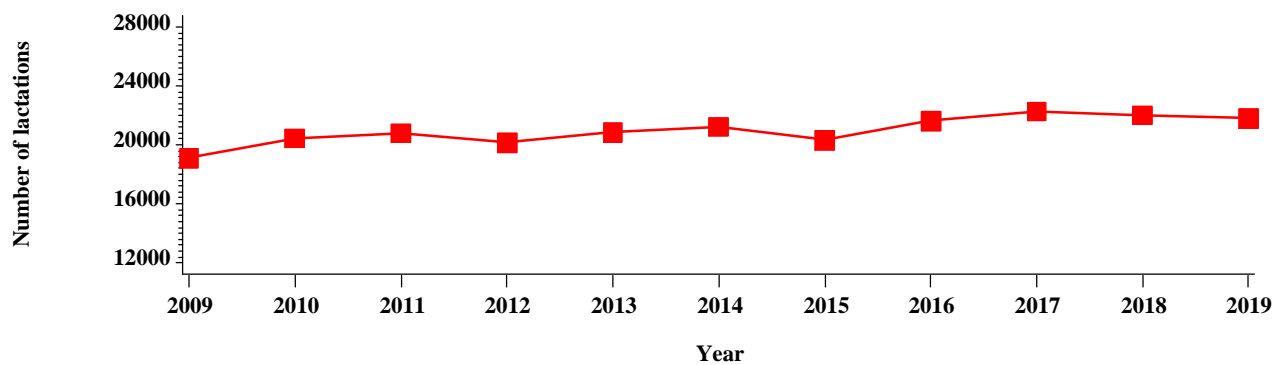|	
▨	>=2 & <1000
▨	>=1000 & <5000
▨	>=5000 & <10000
▨	>=10000 & <50000
▨	>=100000 & <=129688
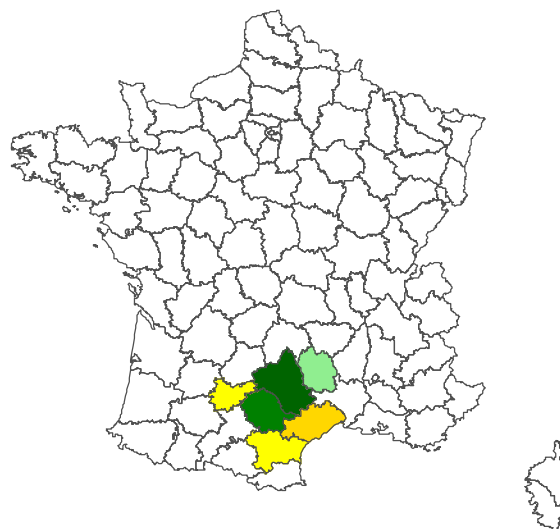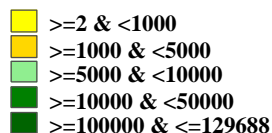
Distribution by parity for Lacaune breed

Parity	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
1st lactation	44,857	277.4	88.0	158.6	40
2nd lactation	37,169	349.5	97.3	179.2	40
3rd lactation	28,590	369.0	97.0	182.8	36
4th lactation	21,864	360.6	97.7	181.0	37
5th lactation	15,773	345.5	99.1	177.5	39
6th lactation	10,027	326.1	98.0	173.7	41
7th lactation and over	8,719	290.6	97.9	165.0	44
Unknown	324	276.3	108.4	159.0	51
Overall total	**167,323**	**330.0**	**101.9**	**173.3**	**40**

Evolution of the number of lactations for Lacaune breed
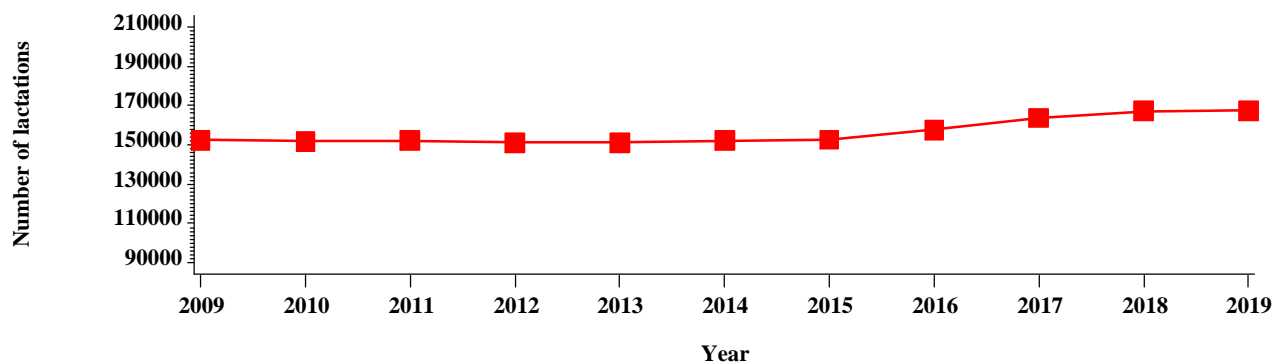
2.3 - Breed BASCO BEARNAISE
(French breed code: 030)

Geographical distribution of ewes with lactations of Basco Bearnaise breed
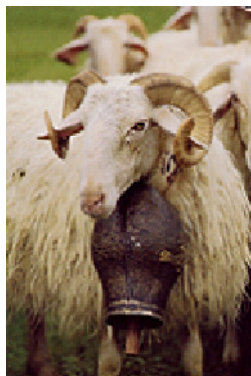
| | 147 |
| | 21645 |
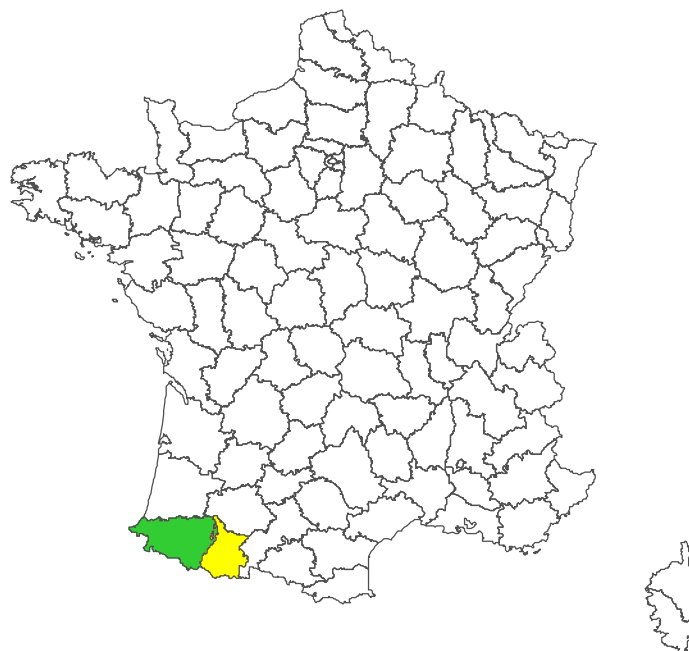
Distribution by parity for Basco Bearnaise breed

Parity	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
1st lactation	4,735	173.0	*71.0*	119.8	*49*
2nd lactation	4,421	222.7	*77.1*	148.7	*47*
3rd lactation	3,664	241.7	*81.3*	161.1	*44*
4th lactation	2,829	248.0	*83.9*	166.2	*41*
5th lactation	2,185	238.9	*83.3*	166.2	*41*
6th lactation	1,672	229.3	*83.7*	163.4	*42*
7th lactation and over	1,743	207.0	*82.6*	158.5	*44*
Unknown	543	181.8	*77.3*	152.3	*51*
Overall total	**21,792**	**218.2**	**83.7**	**150.5**	**48**

Evolution of the number of lactations for Basco Bearnaise breed

2.4 - Breed MANECH TETE NOIRE
(French breed code: 052)

Geographical distribution of ewes with lactations of Manech Tete Noire breed
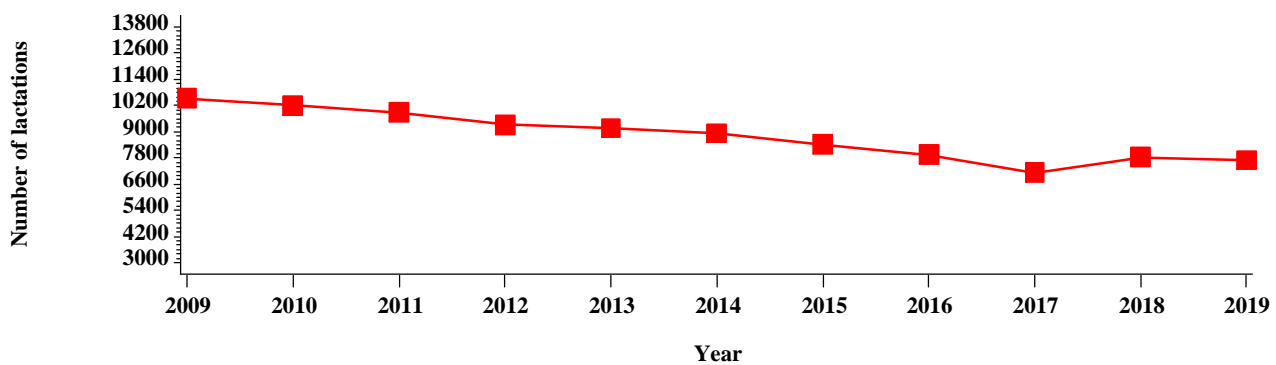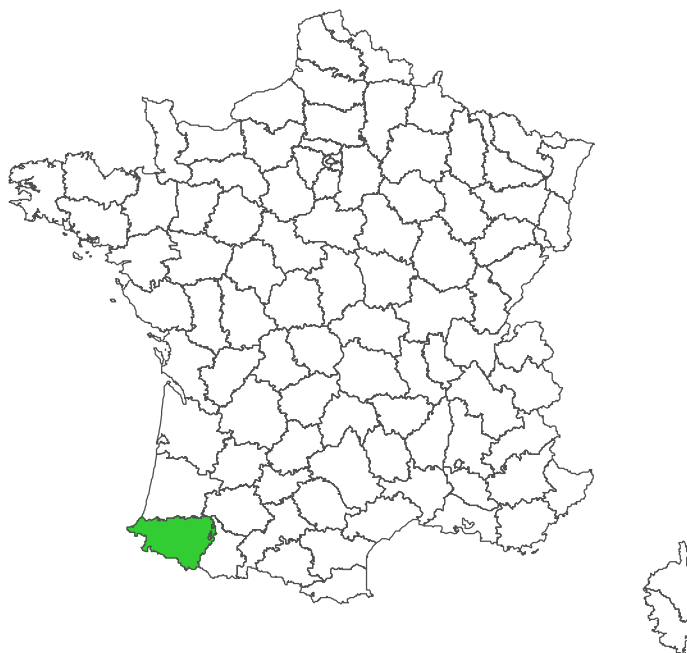

■ 7706
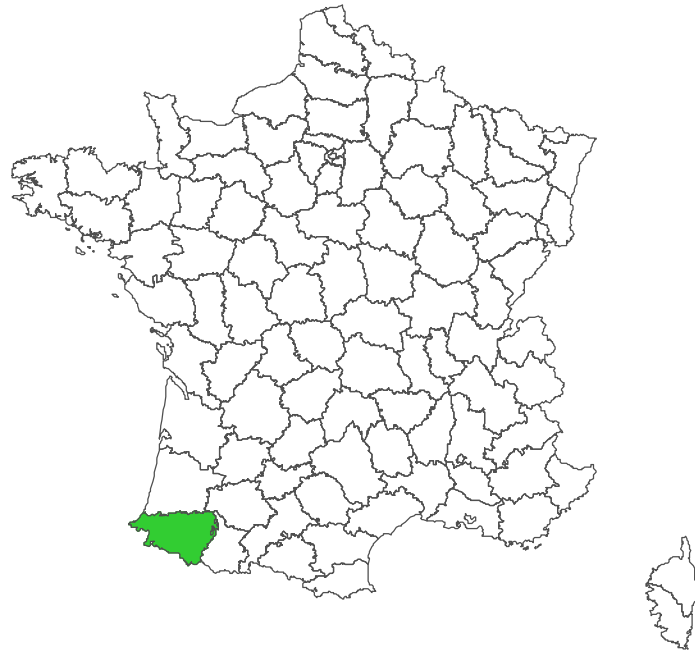
Distribution by parity for Manech Tete Noire breed

Parity	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
1st lactation	1,605	167.1	66.7	149.8	48
2nd lactation	1,449	188.9	70.8	153.8	45
3rd lactation	1,223	191.1	71.0	156.4	42
4th lactation	999	186.1	72.6	154.6	44
5th lactation	706	176.6	67.4	151.5	43
6th lactation	503	163.4	63.5	147.5	45
7th lactation and over	591	143.0	66.1	138.3	46
Unknown	630	153.0	66.7	142.1	47
Overall total	**7,706**	**175.1**	**70.4**	**150.7**	**45**

Evolution of the number of lactations for Manech Tete Noire breed

2.5 - Breed MANECH TETE ROUSSE

(French breed code: 053)

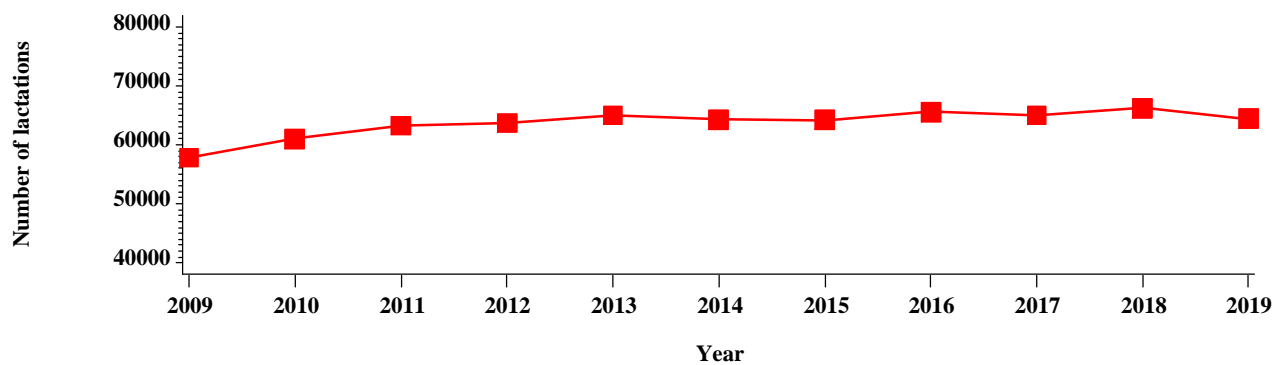Geographical distribution of ewes with lactations of Manech Tete Rousse breed

■ 64406

Distribution by parity for Manech Tete Rousse breed

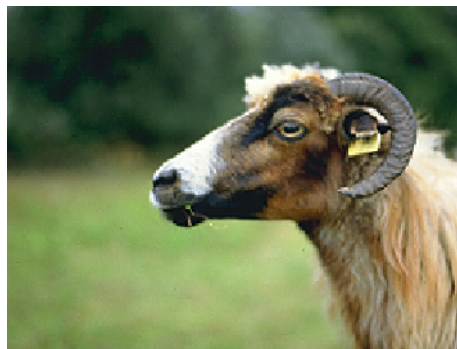| Parity	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
1st lactation	15,196	234.6	93.1	158.1	49
2nd lactation	13,450	260.1	93.6	162.6	49
3rd lactation	11,048	266.4	92.7	167.3	47
4th lactation	8,785	258.7	90.7	168.6	46
5th lactation	6,470	244.4	92.6	165.3	47
6th lactation	4,406	227.5	91.3	158.9	49
7th lactation and over	4,475	201.8	87.6	151.7	50
Unknown	576	187.9	85.7	139.1	51
Overall total	**64,406**	**246.5**	**94.1**	**162.2**	**48**

Evolution of the number of lactations for Manech Tete Rousse breed
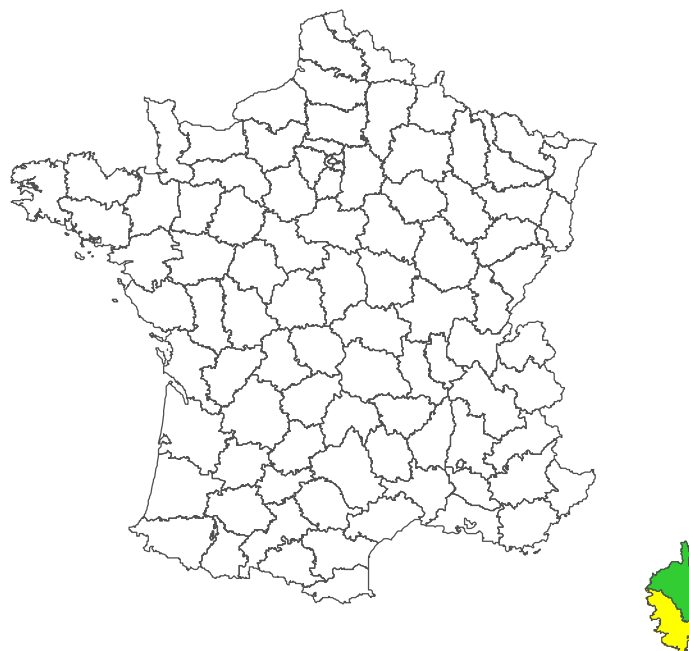
2.6 - Breed CORSE
(French breed code: 046)

Geographical distribution of ewes with lactations of Corse breed

◻ **2842**
◻ **14312**

Distribution by parity for Corse breed

Parity	Number of ewes in lactation	Milk yield *liters*	Milk yield standard deviation *liters*	Lactation duration *days*	Lactation duration standard deviation *days*
1st lactation	3,137	103.7	45.7	137.7	49
2nd lactation	3,136	148.8	58.4	186.6	56
3rd lactation	2,622	168.8	60.0	203.3	50
4th lactation	2,231	171.0	61.1	206.5	47
5th lactation	1,775	165.5	62.9	203.3	51
6th lactation	1,303	161.1	63.7	203.4	50
7th lactation and over	1,858	142.3	60.9	192.6	55
Unknown	1,092	134.4	62.5	184.6	62
Overall total	**17,154**	**147.5**	**63.0**	**186.3**	**57**

Evolution of the number of lactations for Corse breed
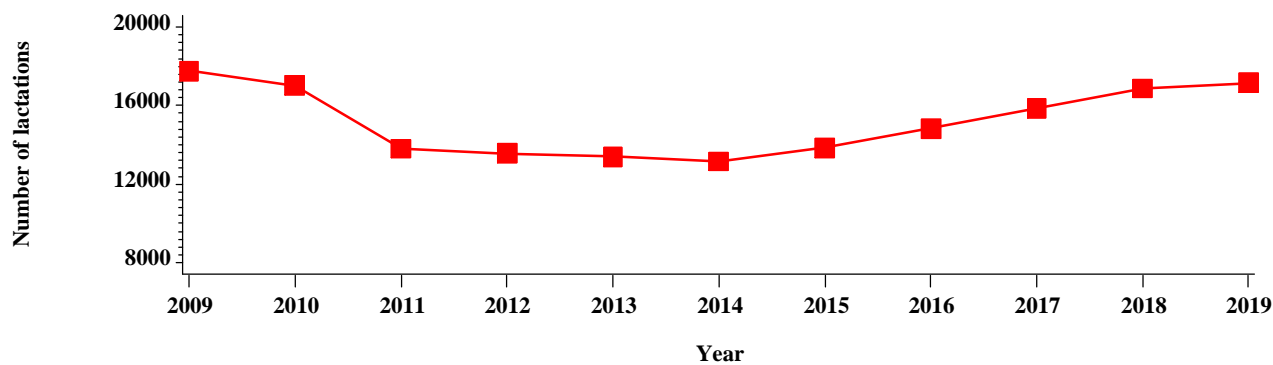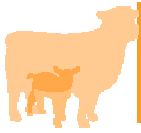
Milk recording results - Sheep
France – 2019

SHEEP: The total number of ewes present at the lambing period reached 329,394 in 2019, that is quite similar to the previous year (+ 0,1%). At the same time the total number of ewes with lactation calculation decreased slightly at 278,423 (-0,6%). This overall stability occurs after several years of increasing ewes population (more than 22,000 ewes over the previous 3years). 760 flocks are counted up today in Official Milk Recording, which means a decrease of 8 flocks compared to the previous year. Meanwhile, the average size of flock still progressed in 2019 (433 ewes present at the lambing period in average versus 428 ewes in 2018).

In 2019 the average milk yield is stable for the Lacaune breed (+0.1 liter), is decreasing for the Corsican breed (-12,4 liters) and is increasing for the Pyrenean breeds (4.1 to 10 liters). At the national level the milk yield reached 286.3 liters in 169 days in milking-only period (+2.1 liters and + 2 days).

A simplified milk recording, corresponding to the D recording method in the ICAR nomenclature and not presented in this document, exists in addition to the Official Milk Recording AC design. It concerns commercial flocks out of the selection nucleus (while the Official Milk Recording is devoted only to breeders involved in the selection program). 1,289 flocks and 572,456 ewes present at the lambing period were submitted to D recording in 2019.