



THE GLOBAL STANDARD  
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

# Yearly survey on the situation of MILK RECORDING SYSTEMS (Years 2014 and 2015) in ICAR member countries for cow, sheep and goats



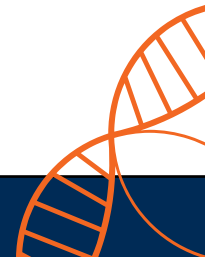
## TABLE OF CONTENT

### COW SURVEY

Table 1 - National milk production .....	7
Table 2 - Position of milk recording: Methods and Organisations .....	12
Table 3 - Costs and financing.....	18
Table 4.1 - All breeds together - All recorded cows .....	21
Table 4.2 - All breeds together - Cows in herdbook .....	26
Table 4.2 - All breeds together - Cows in herdbook .....	27
Table 4.2 - All breeds together - Cows in herdbook .....	28
Table 4.3 - Main breeds - All recorded cows .....	29
Table 4.4 - Main breeds - Cows in herdbook.....	51

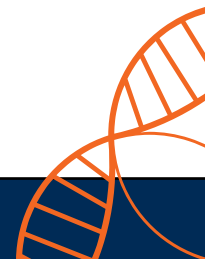
### SHEEP SURVEY

Table 1A - Milk recording and management of the lactation .....	68
Table 1B - Methods of milk recording.....	74
Table 2A - Type of lactation calculation for milk yield .....	77
Table 2B - Milk yield results.....	81
Table 3 - Optional tests for milk composition.....	84
Table 4 - Recording of non-milking traits.....	88
Table 5 - Milk recording equipment used in case of machine milking .....	90
Table 6 - Breeding programme using artificial insemination .....	91
Table 7 - Molecular information.....	94



## GOAT SURVEY

Table 1A - Milk recording and management of the lactation .....	98
Table 1B - Methods of milk recording.....	104
Table 2A - Type of lactation calculation for milk yield .....	107
Table 2B - Milk yield results.....	111
Table 3 - Optional tests for milk composition.....	114
Table 4 - Recording of non-milking traits.....	117
Table 6 - Breeding programme using artificial insemination .....	121
Table 7 - Molecular information.....	122
ICAR Member Organisations participating in the survey.....	123



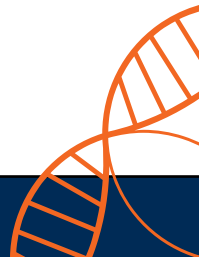
## Preface

Billions of people consume milk and dairy products worldwide. Milk is no longer viewed solely as a source of nutrients for new-born children and, alongside dairy products, is now viewed as a fundamental source of protein and energy for all consumers. Milk and dairy products also offer significant opportunities for farmers, processors, retailers and other stakeholders within the dairy value chain.

At the primary level of the sector is raw production, which requires consumers, industry and governments to understand the complex relations between its various components. In order to facilitate this understanding, up-to-date information on the contribution to the economy of milk and dairy products must be provided, including how best to develop the dairy industry to effectively increase food security and generate maximum income for the entire value chain.

ICAR has been collecting data since 1996 on national milk production, milk recording and the cost of the whole milk production chain, together with information about the source of its funding. Particularly relevant in this publication are the sections in which the productivity of each of the many breeds that comprise the national sector is assessed, so that even minor breeds can be described and their contributions to the national statistics can be evaluated at the correct scale. This data was initially collected only for the cow milking sector but since 2008 the sheep and goat milking sectors have been included in the survey.

This publication incorporates dairy sector primary production information from a wide range of sources in a unique manner that examines the existing relationships between farmers, dairying and dairy-industry development. This collaboration by ICAR's many national Members, including leading and coordinating the planning, preparation and publication process, has made this booklet possible.

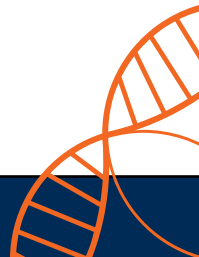


In producing this booklet, ICAR aims to provide:

- an in-depth look at the most sensitive step in the dairy chain and nutrition within the national primary production dairy sector, going from milk production to consumption
- a realistic picture of the various national distinctions and the differences in scale of the dairy sector in the analysed countries
- insights into dairy's potential by presenting specific stakeholder actions to improve future production and planning

The technical editorial team wishes to thank all who gave so generously of their expertise, time and energy, particularly the following ICAR Members who supported the production of this booklet::

- |  |                            |
|--|----------------------------|
| • Australia (by ADHIS)                             | • Hungary (by NEBIH)       |
| • Austria  | • Ireland                  |
| • Belgium (Wallonia Region)                        | • Israel                   |
| • Canada (by Canadian DHI)                         | • Italy                    |
| • Chile  | • Latvia                   |
| • China (by Shanghai Dairy Breeding Center Co)     | • Lithuania                |
| • China (Dairy Cattle Research Centre of Shandong) | • Morocco                  |
| • Croatia  | • New Zealand (by DairyNZ) |
| • Czech Rep. (by CMSCH)                            | • New Zealand (by LIC)     |
| • Estonia  | • Norway                   |
| • Finland  | • Poland (by PFHB)         |
| • France   | • Serbia                   |
| • Germany (by ADR)                                 | • Slovak Republic          |
| • Hungary (by LPT)                                 | • Slovenia                 |



- South Africa (by ARC)
- South Korea (by DCIC Centre)
- South Korea (by KAI Assoc.)
- Spain
- Sweden
- Switzerland
- Taiwan
- The Netherlands (by CRV)
- Tunisia
- Turkey (by Cattle Breed. Assoc.)
- UK (by CIS)
- UK (by NMR)
- UK (by Royal Jersey Agricultural and Horticultural Society, Royal Jersey Showground)
- Uruguay
- USA

**ICAR Member Organisations are encouraged to submit and complete the missing data by 15 November 2016, i.e. before the finalisation of the present booklet and its distribution to the competent authorities**

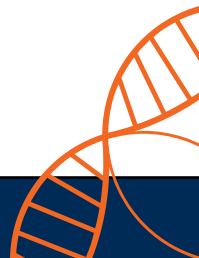
**NOTE:**

This publication is based on the data submitted by each ICAR Member Organisation and that are available on the on-line ICAR database at: [www.icar.org](http://www.icar.org) > Publications > On-line databases ...

The database is available at: [www.icar.org/survey/pages/tables.php](http://www.icar.org/survey/pages/tables.php)

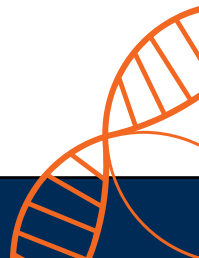
ICAR also advises that data hereby collected were downloaded for each species on:

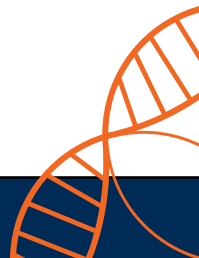
- 20 August for the Cow survey
- 10 September for the Goat survey
- 15 September for the Sheep survey





## Cow Survey (Years 2014 and 2015)







## COW SURVEY

Table 1 - National milk production

Country	Year	Total number of dairy cows	Total number of dairy herds	Average of cows per herd	Average milk production per cow per year (kg)	Percent of fat production per cow per year (%)	Percent of protein production per cow per year (%)
Australia (ADHIS)	2014	1.690.000	6.314	268	5.471	4,07	3,37
Australia (ADHIS)	2015	1.740.000	6.128	284	5.731	4,11	3,38
Austria	2014	534.000	31.500	17	6.542	4,12	3,39
Austria	2015						
Belgium (Wallonia Region)	2014	207.102	3.409	61	6.772	3,96	3,35
Belgium (Wallonia Region)	2015	202.825	3.252	62			
Canada (Canadian DHI)	2014	959.300	11.962	80	8.984	4,00	3,27
Chile	2015	420.000	12.500	33	5.900	3,88	3,52
China (Shanghai Dairy Breeding Center Co)	2014	74.869	99	757	4.660	3,59	3,18
China (Shanghai Dairy Breeding Center Co)	2015	81.718	96	852	4.560	3,61	3,19
China (Dairy Cattle Research Centre of Shandong)	2014	49.870	106	470	25	3,87	3,31
China (Dairy Cattle Research Centre of Shandong)	2015	70.447	121	582	27	3,88	3,26
Croatia	2014	164.347	10.003	16	4.235	4,08	3,40
Croatia	2015	159.268	8.746	18	4.269	4,05	3,39

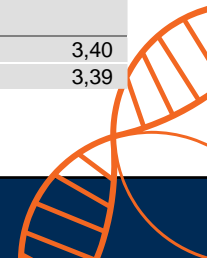


Table 1 - National milk production

Country	Year	Total number of dairy cows	Total number of dairy herds	Average of cows per herd	Average milk production per cow per year (kg)	Percent of fat production per cow per year (%)	Percent of protein production per cow per year (%)
Czech Rep.	2014	370.721			7.921	3,87	3,42
Czech Rep.	2015						
Estonia	2014	97.267	2.637	37	8.233	4,00	3,40
Estonia	2015	95.611	2.303	42	8.337	3,90	3,40
Finland	2014	285.246	8.567	33	8.645	4,28	3,48
Finland	2015	284.140	7.893	36	8.808	4,32	3,47
France	2014	3.697.000	63.581	58	6.990		
Germany	2014	4.295.680	76.469	56	7.541	4,07	3,41
Germany	2015	4.284.639	73.255	59	7.600	4,07	3,40
Hungary	2014	256.000	12.400	20	7.200	3,65	3,23
Hungary	2014	256.000	12.400	20	7.200	3,65	3,23
Ireland	2014	1.140.000	17.000	67	5.200	3,98	3,43
Ireland	2015	1.295.000	17.500	74		4,03	3,50
Israel <sup>1</sup>	2014	111.786	578	193	12.083	3,64	3,27
Israel <sup>1</sup>	2015	107.212	553	194	11.772	3,71	3,30
Italy	2014	1.923.000					
Latvia	2014	165.167	21.545	8	5.812		
Lithuania	2014	318.184	61.770	5			
Lithuania	2015	310.035	55.936	6			
Morocco	2015	360.000	104.000	4	5.200	3,80	3,40
New Zealand (by DairyNZ)	2015	5.018.333	11.970	419	377	4,78	3,84
New Zealand (by LIC)	2014	5.018.333	11.970	419	4.371	4,87	3,75

<sup>1</sup> Cows in herdbook

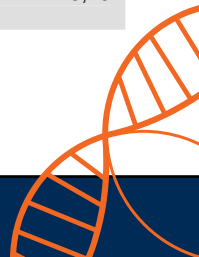


Table 1 - National milk production

Country	Year	Total number of dairy cows	Total number of dairy herds	Average of cows per herd	Average milk production per cow per year (kg)	Percent of fat production per cow per year (%)	Percent of protein production per cow per year (%)
Norway	2014	229.600	9.364	25	7.599	4,24	3,44
Norway	2015	228.400	8.889	26	7.748	4,29	3,46
Poland (by PFHB)	2014	2.247.785	285.705	8	5.682	4,01	3,27
Poland (by PFHB)	2015	2.134.091	264.897	8	5.841	4,01	3,28
Serbia <sup>2</sup>	2014	85.000			4.459		
Serbia <sup>2</sup>	2015	80.000			4.463		
Slovak Republic	2014	144.984			6.505	3,82	3,35
Slovak Republic	2015	140.837			6.733	3,77	3,30
South Africa	2014	680.000	1.690	403	4.617		
South Africa	2015	670.000	1.660	404	4.984		
South Korea (by DCIC Centre)	2015	233.118	5.498	42	9.301	3,92	3,26
South Korea (by KAI Assoc.)	2014	248.248	5.693	44	9.223	3,96	3,21
South Korea (by KAI Assoc.)	2015	233.118	5.498	75	10.285	3,76	3,22
Spain	2014	844.791	21.699	39	8.298	3,60	3,20
Spain <sup>3</sup>	2015	844.114	16.399	51	8298	3,60	3,20
Sweden	2014	344.000	4.300	80	8500	4,25	3,42
Sweden	2015	336.000	4.172	81	8730	4,25	3,42
Switzerland	2014	585.501	22.597	26	5832	4,07	3,32
Switzerland	2015	576.517	21.765	27	5838	4,08	3,31
Taiwan	2014	60.103	550	109	6042	3,84	3,29

<sup>2</sup> Data relating to the region AP Vojvodina in Serbia

<sup>3</sup> Please, notice that there is a change in the total number of dairy herds figures, due to the end of the milk quota, and the change of the parameter used to fill this tables. This change could influence in the whole survey.

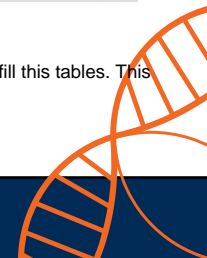


Table 1 - National milk production

Country	Year	Total number of dairy cows	Total number of dairy herds	Average of cows per herd	Average milk production per cow per year (kg)	Percent of fat production per cow per year (%)	Percent of protein production per cow per year (%)
Taiwan	2015	60.932	547	111	6006	3,83	3,30
The Netherlands (by CRV)	2014	1.438.736	15.941	90	8376	4,33	3,53
Tunisia	2014	239.630	11.846	20	5665	3,61	3,17
Tunisia	2015	259.420	12.945	20	5616	3,62	3,11
Turkey (by Cattle Breed. Assoc.)	2014	5.609.240	2.074.439	3	3030		
Turkey (by Cattle Breed. Assoc.)	2015	5.535.774	2.074.439	3	3059		
UK - England (by CIS)	2014	230.889	1.239	186	8283	4,11	3,28
UK - England (by CIS)	2015	237.133	1.232	192	8412	4,10	3,28
UK - England+Wales (by NMR)	2014	683.132	3.999	170	9490	4,04	3,30
UK - England+Wales (by NMR)	2015	667.819	3.768	177	8390	4,03	3,33

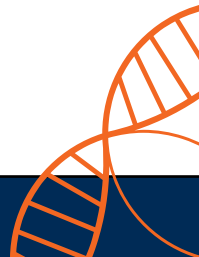


Table 1 - National milk production

Country	Year	Total number of dairy cows	Total number of dairy herds	Average of cows per herd	Average milk production per cow per year (kg)	Percent of fat production per cow per year (%)	Percent of protein production per cow per year (%)
UK - Jersey Island	2014	2.923	23	127	4743	5,15	3,78
UK - Jersey Island	2015	2.990	23	130	5249	5,25	3,72
UK - N. Ireland (by CIS)	2014	95.581	688	138	7153	4,05	3,30
UK - N. Ireland (by CIS)	2015	91.182	636	143	7463	3,97	3,26
UK - N. Ireland (by NMR)	2014	54.998	385	143	9150	4,03	3,26
UK - N. Ireland (by NMR)	2015	55.380	367	151	8910	4,06	3,26
UK - Scotland (by CIS)	2014	100.674	535	188	8228	3,98	3,25
UK - Scotland (by CIS)	2015	104.967	533	196	8208	4,10	3,28
UK - Scotland (by NMR)	2014	19.512	64	304	10660	3,89	3,26
UK - Scotland (by NMR)	2015	18.075	57	317	10330	3,94	3,31
UK - Wales	2014	32.126	191	168	8027	4,19	3,29
UK - Wales	2015	33.880	190	178	8073	4,18	3,28
Uruguay <sup>4</sup>	2014	425.150	4.300	99	5270	3,72	3,37
USA <sup>5</sup>	2014	9.257.000	45.344	204	10096	3,74	
USA <sup>5</sup>	2015	9.317.000	43.584	214	10157		

<sup>4</sup> Source: MGAP/DIEA 2015

<sup>5</sup> Source: USDA-NASS

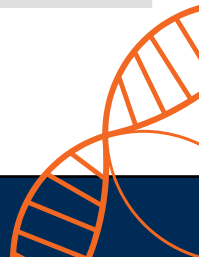


Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
Australia	2014	673.099	40	3.023	48	223						
Australia	2015	680.537	39	2.880	47	240						
Austria	2014	416.525	78	21.476	68	19,3				100		
Austria	2015	422.777	79	21.055		20				100		
Belgium (Wallonia Region)	2014	74.227	36	947	27	78	0	43	34,53	16	1	6
Belgium (Wallonia Region)	2015	72.803	35	909	28	80	0	40	35,2	17	1	7
Canada	2014	702.298	73	9.125	76	77						
Chile	2015	175.000	41	610	5	287	0	38	0	60	2	
China (Shanghai DBC)	2014	44.172	59	99	99	757		100				
China (Shanghai DBC)	2015	50.662	62	96	96	852		100				
China (DCRC Shandong)	2014	49.870		106		470					100	
China (DCRC Shandong)	2015	70.447		121		582					100	
Croatia	2014	100.871	61	5.767	58	17				52	47,6	
Croatia	2015	98.567	62	5.480	63	18				50	50	
Czech Rep.	2014	354.835	96	1.446		245		64		1		36
Czech Rep.	2015	356.594		1.419		251		61		1		38
Estonia	2014	92.134	95	764	29	120					100	
Estonia	2015	91.222	95	709	31	128					100	

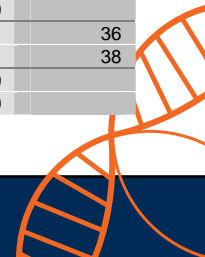


Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
Finland	2014	231.763	84	6.180	72	37		1			97	C - 2.8
Finland	2015	229.121	81	5.816	74	39		1			96,5	C - 3.1
France	2014	2.572.024	69	46.617	67	55		35	6	19	12,2	27
France	2015	2.562.183	69	45.064	69	56		34	6	20	13,3	27
Germany (ADR)	2014	3.736.928	87	51.600	68	72						
Germany	2015	3.749.481	88	49.496	68	758						
Hungary	2014	178.642	70	461	4	387		100				
Hungary	2014	178.642	70	461	4	387		100				
Ireland	2014	565.078	52	6.552	39	91	0	12	24	0	35	A5-4%, A7-9%, A8-16%
Ireland	2015	646.340	52	6.637	39	97				0	36	
Italy	2014	1.341.365		18.036		77		1		98		
Italy	2015	1.369.952		17.959		76	0					
Latvia	2014	127.454	77	5.721	27	22						
Lithuania	2014	144.850	46	4.040	7	35		1		86	4,5	9
Lithuania	2015	147.560	48	3.930	7	37		1		86	4,6	10
Luxembourg	2014	37.571	83	591	84	63		14		28	38,8	20
Morocco	2015	360.000	8	500	1	5	0	100	0	0	0	
New Zealand (by LIC)	2014	3.654.447	73	8.724	72	418	0	0	0	24	76	0
Norway	2014	174.788	98	7.040	98	24					100	
Norway	2015	174.918	99	6.800	99	25					100	

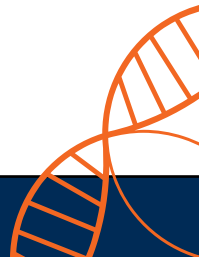


Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
Poland	2014	733.240	33	20.704	7	35		14		80		A8=5,7%; A4=25,7% ; AT4=70,5% A8=3,8%
Poland	2015	753.613	36	20.969	8	35		13		83		A8=4,9%; A4=25,2% ; AT4=71,5% A8=3,3%
Serbia <sup>1</sup>	2014	44.886	53	3.357	16	13				100		
Serbia <sup>1</sup>	2015	52.747	66	3.378	16	15				100		
Slovak Republic	2014	120.217	82	583		206		1		99		
Slovak Republic	2015	117.135	82	582		198		1		99		
South Africa	2014	36.708	5	213	13	172						
South Africa	2015	32.336	5	207	13	156						
South Korea (by DCIC Centre)	2014	159.068	64	3.309	58	48		100				
South Korea (DCIC Centre)	2015	148.608	64	3.214	59	46		100				
South Korea (KAI Assoc.)	2014	159.068	64	3.309	58	48		100				

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

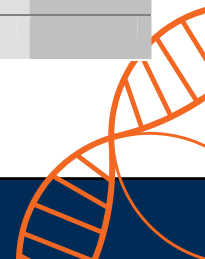




Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
South Korea (KAI Assoc.)	2015	148.608	64	3.214	58	46		100				
Spain	2014	500.971	59	6.756	31	74		9		91		1
Spain	2015	554.374	66	6.767	41	81		4		96	0,13	
Sweden	2014	277.324	84	3.300	80	80					100	
Sweden	2015	268.664	81	3.068	70	83					100	
Switzerland	2014	459.789	79	23.604	100	19	0	33	0	67	0	
Switzerland	2015	461.665	80	23.025	100	20	0	30	0	70	0	
Taiwan <sup>2</sup>	2014	25.699	42	164	30	157		100				
Taiwan <sup>3</sup>	2015	26.784	44	169	31	159		100				
The Netherlands (by CRV)	2014	1.438.736	91	15.941	84	90	0,5	43	56,1	0	0	A5 = 7.1
Tunisia	2014	19.338	8	956	8	20			1,8	28	69	
Tunisia	2015	19.319	7	964	7	20			1,56	26	73	
Turkey	2014	1.911.787	34	159.420	8	12	0	0	0	0	100	
Turkey	2015	2.050.555	37	164.577		12	0	0	0	0	100	
UK - England (by CIS)	2014	230.889		1.239		186		353	70	328	465	
UK - England (by CIS)	2015	237.133		1.232		192		27	6	27	40	19
UK - England+Wales (by NMR)	2014	501.959	74	3.976		170	0,1	70	3,1	43	22	2

<sup>2</sup> Highest Milk Yield = 69 Kg/Day; Highest Herd Average = 33.76Kg/Day

<sup>3</sup> Highest Milk Yield = 82 Kg/Day; Highest Herd Average = 34.04Kg/Day

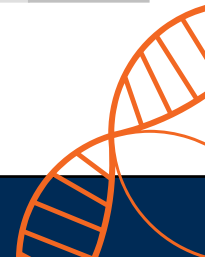


Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
UK - England+Wales (by NMR)	2015	503.604	75	3.863		169	0,13	75	3	45	23	2
UK - Jersey Island	2014	2.923		23		127		9	0	11	3	0
UK - Jersey Island	2015	2.927		23		127		52	0	35	13	0
UK - N. Ireland (by CIS)	2014	95.581		688		138		36	6	37	16	36
UK - N. Ireland (by CIS)	2015	91.182		636		143		38	6	36	14	33
UK - N. Ireland (by NMR)	2014	34.548	64	354		143	0	47	9,5	51	16	27
UK - N. Ireland (by NMR)	2015	33.396	60	344		151	0	49	9,7	53	14	27
UK - Scotland (by CIS)	2014	100.674		535		188		340	19	77	82	
UK - Scotland (by CIS)	2015	104.967		533		196		62	3	15	16	
UK - Scotland (by NMR)	2014	9.997	51	56		304	0	74	6	22	20	0



Table 2 - Position of milk recording: Methods and Organisations

Country	Year	Number of recorded cows	% recorded cows	Number of recorded herds	% recorded herds	Average number of cows per recorded herd	% recorded herds per method A3	% recorded herds per method A4	% recorded herds per method A6	% recorded herds per method AT	% recorded herds per method B	Other methods
UK - Scotland (by NMR)	2015	8.610	48	56		317	0	81	3,5	16	12	4
UK - Wales	2014	32.126		191		168		21	6	34	37	
UK - Wales	2015	33.880		190		178		21	5	36	35	5
Uruguay	2015	103.000	24	317	13	325						
USA - (by NDHIA) <sup>4</sup>	2014	4.353.277		18.344		237		27		73		
USA - (by NDHIA) <sup>4</sup>	2015	4.383.422		17.984		244		28		73		

---

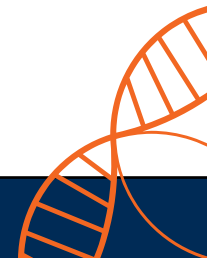
<sup>4</sup> DHI Participation


Table 3 - Costs and financing

Country	Year	Cost price of milk recording per cow and per year - A4	Cost price of milk recording per cow and per year - A6	Cost price of milk recording per cow and per year - AT	Cost price of milk recording per cow and per year - B	Part of the cost price paid by the producer - A4	Part of the cost price paid by the producer % - A6	Part of the cost price paid by the producer % - AT	Part of the cost price paid by the producer % - B
Chile	2015	18,5		14,5	12	100		100	100
China (Shanghai DBC)	2014	10,5				0			
China (Shanghai DBC)	2015	10,5				0			
China (DCRC Shandong) <sup>1</sup>	2014				7				
China (DCRC Shandong) <sup>1</sup>	2015				7				
Croatia	2014			35	30			50	50
Croatia	2015			35	30			50	50
Czech Rep.	2014								
Czech Rep.	2015								
Estonia	2014				18				80
Estonia	2015				25				84
France	2014	50		43	40	100	100	100	100
France	2015	50		43	40	100		100	100

<sup>1</sup> Cost price of milk recording per cow and per year method B is 7RMB

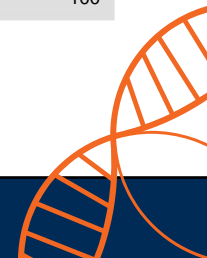


Table 3 - Costs and financing

Country	Year	Cost price of milk recording per cow and per year - A4	Cost price of milk recording per cow and per year - A6	Cost price of milk recording per cow and per year - AT	Cost price of milk recording per cow and per year - B	Part of the cost price paid by the producer - A4	Part of the cost price paid by the producer % - A6	Part of the cost price paid by the producer % - AT	Part of the cost price paid by the producer % - B
Hungary <sup>2</sup>	2014	30,3				100			
Hungary <sup>2</sup>	2014	30,3				100			
Italy	2014								
Latvia	2014	9,72			10	0			0
Latvia	2015	9,72			10				
Morocco	2015	200				100			
New Zealand (by LIC)	2014	0	0	0	11		0	0	0
Serbia <sup>3</sup>	2014			40				100	
Serbia <sup>3</sup>	2015			40				100	
Slovak Republic	2014	57,03		44,66		67		67	
Slovak Republic	2015	65,2		51,34		67		67	
Spain <sup>4</sup>	2014	140,3				70			
Spain <sup>4</sup>	2015	141,4				70			

<sup>2</sup> Cost\_cowA4= 10.4 EUR/cow/year; 30,3 kg milk

<sup>3</sup> Data relating to the region AP Vojvodina in Serbia

<sup>4</sup> 140,3 is the cost price of milk recording per cow and per year-A4+AT \*\*70 is the part of the cost price paid by the producer- A4+AT

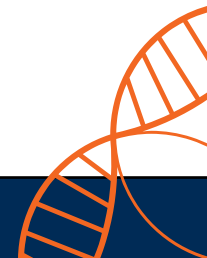


Table 3 - Costs and financing

Country	Year	Cost price of milk recording per cow and per year - A4	Cost price of milk recording per cow and per year - A6	Cost price of milk recording per cow and per year - AT	Cost price of milk recording per cow and per year - B	Part of the cost price paid by the producer - A4	Part of the cost price paid by the producer % - A6	Part of the cost price paid by the producer % - AT	Part of the cost price paid by the producer % - B
Sweden <sup>5</sup>	2014				45				100
Sweden <sup>6</sup>	2015				55				
Switzerland	2014	57		43		30		32	
Switzerland	2015	57		43		30		32	
Taiwan <sup>7</sup>	2014	28,2				100			
Taiwan	2015	27,7				100			
Tunisia	2014		78	78	78		0	0	0
Tunisia	2015		108	108	108		0	0	0
Turkey	2014	0	0	0	15	0	0	0	100
Turkey	2015	0	0	0	18	0	0	0	100
Uruguay	2015	0,18	0,18			100	100		
USA - (by NDHIA)	2015					100		100	100

<sup>5</sup> Cost expressed as value of kg per cow and year

<sup>6</sup> Cost expressed as kg of milk per cow and year. Increase because of new price model which include more.

<sup>7</sup> Dairy Association Taiwan

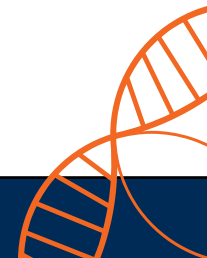


Table 4.1 - All breeds together - All recorded cows

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content (%)	Percent protein content (%)	Calving interval (days)
Australia	2014	673.099	327	6.890	6.890	4,00	3,30	
Australia	2015	680.537	324	6.976	6.976	4,00	3,30	
Austria	2014	345.419	299		7.273	4,12	3,39	398
Austria	2015	353.243	299		7.281	4,13	3,39	398
Belgium (Flemish Region by CRV)	2014	87.412	355	9.328		4,14	3,44	418
Belgium (Wallonia Region)	2014	50.726	356	8.558	7.565	3,93	3,37	419
Belgium (Wallonia Region)	2015	52.582	354	8.635	7.681	3,95	3,37	417
Canada	2014	309.345	305		9.893	3,93	3,22	424
Chile	2015	175.000	324	6.950	7.661	3,71	3,40	416
China (Shanghai DBC)	2014		348	9.078	8.720	3,59	3,18	420
China (Shanghai DBC)	2015		356	9.409	8.830	3,61	3,19	417
China (DCRC Shandong)	2014	2	212	25	7.358	3,87	3,31	449
China (DCRC Shandong)	2015	2	208	27	8.320	3,88	3,26	438
Croatia	2014	70.426	372	6.931	5.895	4,03	3,33	428
Croatia	2015	70.841	368	6.992	5.956	4,00	3,32	423
Czech Rep.	2014	287.502	297	8.370		3,86	3,39	407
Czech Rep.	2015	294.740	297	8.537		3,85	3,40	404
Estonia	2014	92.000	333	8.728	8.758	3,94	3,33	416
Estonia	2015	87.844	339	8.851	8.819	3,94	3,33	416
Finland	2014	231.763	305	9.112	9.187	4,13	3,38	416
Finland	2015	201.521	305	9.438	9.503	4,28	3,50	413

Table 4.1 - All breeds together - All recorded cows

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content (%)	Percent protein content (%)	Calving interval (days)
France	2014	2.572.024	340	8.481	7.346	3,93	3,23	420
France	2015	2.562.183	337	8.518	7.410	3,92	3,22	420
Germany	2014	3.704.232	321	8.381	8.224	4,07	3,42	403
Germany	2015	3.713.289	320	8.453	8.315	4,07	3,42	403
Hungary	2014	134.436	298		9.096	3,73	3,30	438
Israel <sup>1</sup>	2014	78.179	356	13.280	11.795	3,61	3,23	416
Israel <sup>1</sup>	2015	75.091	358	13.168	11.644	3,62	3,27	417
Italy	2014	835.490	305	8.637	8.637	3,73	3,31	
Italy	2015	837.999	305	8.756	8.756	3,71	3,29	
Latvia	2014	97.871	377	6.993	6.826	4,12	3,27	
Latvia	2015	99.802	376	7.078	7.100	4,10	3,27	
Luxembourg	2014	37.571		7.657		4,10	3,40	422
Luxembourg	2015	39.232		7.927		4,10	3,38	422
Morocco	2015	20.000	400	6.000	5.200	3,80	3,40	460
New Zealand (by LIC)	2014	2.586.841	216	4.269	5.391	4,65	3,72	369
Norway	2014	166.999	303	7.599	7.210	4,24	3,44	381
Norway	2015	165.782	303	7.748	7.379	4,29	3,46	381
Poland	2014	733.241	305	7.582	7.582	4,08	3,36	433
Poland	2015	753.613	305	7.771	7.771	4,09	3,36	432
Serbia <sup>2</sup>	2014	34.579	353	7.098	6.386	3,91	3,21	452
Serbia <sup>2</sup>	2015	36.338	351	7.202	6.592	3,83	3,23	445
Slovak Republic	2014	86.175	296	7.355	7.522	3,91	3,33	425
Slovak Republic	2015	87.014	296	7.522	7.693	3,84	3,31	423

<sup>1</sup> Cows in the herdbook

<sup>2</sup> Data relating to the region AP Vojvodina in Serbia

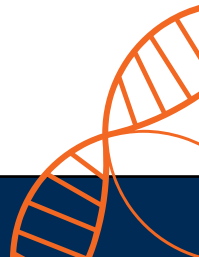




Table 4.1 - All breeds together - All recorded cows

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content (%)	Percent protein content (%)	Calving interval (days)
South Africa (by ARC)	2014	54.832	305	6.960	7.400	4,31	3,54	422
South Africa (by ARC)	2015	49.710	232	5.670	7.618	4,19	3,39	431
South Korea (by DCIC Centre)	2014	159.068			10.057	3,79	3,22	464
South Korea (by DCIC Centre)	2015	148.608			10.289	3,76	3,22	466
South Korea (by KAI Assoc.)	2014		305		10.057	3,81	3,21	464
South Korea (by KAI Assoc.)	2015		305		10.289	3,76	3,22	466
Spain	2014	352.795	370	11.415	9.728	3,60	3,20	432
Spain	2015	350.643	368	11.512	9.863	3,60	3,20	430
Sweden <sup>3</sup>	2014	277.324	365	9.445		4,20	3,47	401
Sweden <sup>3</sup>	2015	268.664	365	9.611		4,20	3,47	401
Switzerland	2014	352.163	300	7.319	7.429	4,04	3,30	403
Switzerland	2015	350.473	300	7.415	7.509	4,00	3,30	403
Taiwan	2014	25.706	382	9.422	7.523	3,84	3,29	
Taiwan	2015	26.785	384	9.933	7.890	3,83	3,30	
The Netherlands (by CRV)	2014	949.172	353	9.330		4,36	3,53	417
Tunisia	2014	11.780	369	6.250	5.665	3,61	3,17	449
Tunisia	2015	10.073	368	6.138	5.631	3,62	3,11	454
UK - England (by CIS)	2014	242.118	336	9.384	8.232	4,02	3,21	418
UK - England (by CIS)	2015	260.745	330	9.367	8.279	4,00	3,21	416

<sup>3</sup> 365 days rolling average

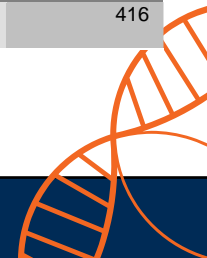


Table 4.1 - All breeds together - All recorded cows

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content (%)	Percent protein content (%)	Calving interval (days)
UK - England+Wales (by NMR)	2014	512.576	949	357	8.450	4,04	3,30	413
UK - England+Wales (by NMR)	2015	513.386	353	9.440	8.390	4,03	3,33	410
UK - Jersey Island	2014	3.117	327	5.380	4.894	5,29	3,70	409
UK - Jersey Island	2015	3.382	314	5.357	4.931	5,21	3,71	405
UK - N. Ireland (by CIS)	2014	88.790	331	8.553	7.553	4,00	3,23	414
UK - N. Ireland (by CIS)	2015	93.059	326	8.521	7.582	3,96	3,22	415
UK - N. Ireland (by NMR)	2014	35.438	350	9.150	8.120	4,03	3,26	410
UK - N. Ireland (by NMR)	2015	34.182	340	8.910	7.990	4,06	3,26	408
UK - Scotland (by CIS)	2014	107.521	336	9.347	8.227	3,88	3,12	418
UK - Scotland (by CIS)	2015	115.961	326	9.184	8.182	3,84	3,13	416
UK - Scotland (by NMR)	2014	10.187	363	10.660	9.260	3,89	3,26	411
UK - Scotland (by NMR)	2015	8.750	354	10.330	9.030	3,94	3,31	408

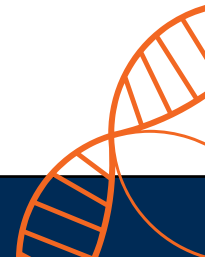


Table 4.1 - All breeds together - All recorded cows

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content (%)	Percent protein content (%)	Calving interval (days)
UK - Wales	2014	33.716	335	9.081	7.980	4,11	3,20	420
UK - Wales	2015	38.547	324	8.974	8.963	4,07	3,20	418
USA - (by NDHIA) <sup>4</sup>	2014	4.353.277	305	10.795	10.795	3,76	3,13	
USA - (by NDHIA) <sup>3</sup>	2015	4.383.422	305	10.928	10.928	3,76	3,12	

---

<sup>4</sup> DHI herd averages

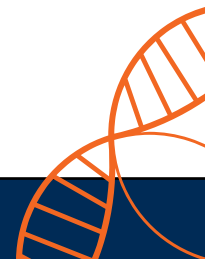


Table 4.2 - All breeds together - Cows in herdbook

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Australia	2014	76.417	336	6.257	6.257	4,09	3,36	
Australia	2015	75.580	329	6.244	6.244	4,09	3,38	
Austria	2014	331.448	299		7.311	4,12	3,40	
Austria	2015	337.589	299		7.319	4,13	3,39	
China (Shanghai DBC)	2014	41.178	348	9.078	8.720	3,59	3,18	420
China (Shanghai DBC)	2015	44.945	356	9.409	8.830	3,61	3,19	417
Czech Rep.	2014	279.105	297	8.459		3,87	3,39	407
Czech Rep.	2015	286.845	296	8.602		3,86	3,41	404
Estonia	2014	80.825	338	8.914	8.924	3,93	3,33	416
Estonia	2015	77.990	343	9.031	8.972	3,92	3,33	416
Finland	2014	43.706	305		9.906	4,11	3,40	416
Finland	2015	43.417	305		10.180	4,17	3,44	
France	2014	2.572.024	340	8.481	7.346	3,93	3,23	420
France	2015	2.562.183	337	8.518	7.410	3,92	3,22	420
Germany	2014	2.814.266	321	8.609	8.436	4,07	3,43	407
Germany	2015	2.828.070	320	8.670	8.514	4,06	3,42	406
Hungary	2014	128.220	298		9.166	3,72	3,29	438
Italy	2014	835.490	305	8.637	8.637	3,73	3,31	
Italy	2015	837.999	305	8.756	8.756	3,71	3,29	
Latvia	2014	37.686	372		7.754	4,14	3,29	
Latvia	2015	36.027	371		8.144	4,14	3,30	
Poland	2014	553.831	305	7.578	7.578	4,04	3,30	
Poland	2015	573.162	305	7.676	7.676	4,01	3,29	

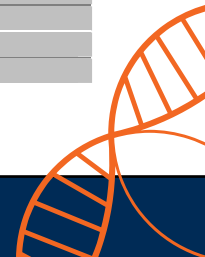


Table 4.2 - All breeds together - Cows in herdbook

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Serbia <sup>1</sup>	2014	26.809	360	7.377	6.624	4,23	3,39	428
Serbia <sup>1</sup>	2015	27.974	357	7.326	6.744	3,89	3,23	433
Slovak Rep.	2014	77.636	297	7.491	7.642	3,94	3,34	419
Slovak Rep.	2015	76.474	296	8	7.874	3,87	3,32	416
South Africa	2014	35.452	305	7.893	8.410	4,28	3,51	437
South Africa	2015	32.098	246	6.636	8.563	4,18	3,37	444
Spain	2014	352.795	370	11.415	9.728	3,60	3,20	432
Spain	2015	350.643	368	11.512	9.863	3,60	3,20	430
Switzerland	2014	352.163	300	7.319	7.429	4,04	3,30	403
Switzerland	2015	350.473	300	7.415	7.509	4,00	3,30	403
Taiwan	2014	35.418						
Taiwan	2015	34.147						
The Netherlands (by CRV)	2014	826.081	353	9.429		4,36	3,54	417
Tunisia	2014	11.780	369	6.250	5.665	3,61	3,17	449
Tunisia	2015	10.073	368	6.138	5.631	3,62	3,11	454
Turkey	2014	276.244	345	6.966	5.998	3,49	3,22	431
UK - England (by CIS)	2014	177.804	338	9.777	8.561	4,01	3,18	419
UK - England (by CIS)	2015	187.522	333	9.793	8.637	3,98	3,18	417

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

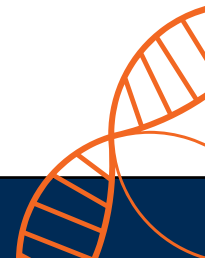


Table 4.2 - All breeds together - Cows in herdbook

Country	Year	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - England+Wales (by NMR)	2014	242.964	360	10.000	8.880	4,03	3,28	416
UK - England+Wales (by NMR)	2015	240.131	355	8.810	8.810	4,02	3,31	414
UK - Jersey Island	2014	3.117	327	5.380	4.894	5,29	3,70	408
UK - Jersey Island	2015	3.379	314	5.359	4.932	5,21	3,71	405
UK - N. Ireland (by CIS)	2014	44.734	338	9.313	8.177	3,97	3,20	421
UK - N. Ireland (by CIS)	2015	47.026	326	8.521	7.582	3,96	3,22	415
UK - N. Ireland (by NMR)	2014	11.905	357	10.170	8.970	4,05	3,24	413
UK - N. Ireland (by NMR)	2015	11.539	346	9.830	8.740	4,09	3,24	416
UK - Scotland (by CIS)	2014	61.296	336	9.725	8.536	3,92	3,16	422
UK - Scotland (by CIS)	2015	64.712	329	9.710	8.614	3,89	3,16	420
UK - Scotland (by NMR)	2014	3.624	373	11.670	9.950	3,93	3,28	425
UK - Scotland (by NMR)	2015	3.347	361	11.470	9.840	3,95	3,31	421
UK - Wales	2014	28.748	337	9.323	8.179	4,08	3,18	422
UK - Wales	2015	33.020	326	9.234	8.180	4,05	3,19	419

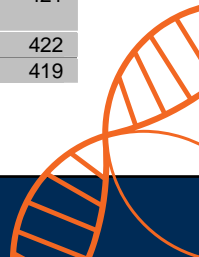


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Austria	2014	Braunvieh	41.878	301		7.161	4,15	3,46	
Austria	2015	Braunvieh	41.620	301		7.185	4,16	3,46	
Austria	2014	Fleckvieh	255.315	298		7.172	4,13	3,41	
Austria	2015	Fleckvieh	261.989	298		7.176	4,15	3,40	
Austria	2014	Grauvieh	2.973	294		4.949	3,97	3,29	
Austria	2015	Grauvieh	3.004	294		4.946	3,95	3,27	
Austria	2014	Holstein	37.966	300		8.592	4,06	3,28	
Austria	2015	Holstein	39.237	300		8.592	4,07	3,28	
Austria	2014	Pinzgauer	6.067	298		5.655	3,86	3,27	
Austria	2015	Pinzgauer	6.043	298		5.666	3,87	3,25	
Belgium (Flemish Region by CRV) <sup>1</sup>	2014	Holstein Black & White	44.395	359	10.007	8.945	4,09	3,43	418
Belgium (Flemish Region by CRV)	2014	Holstein Red & White	13.708	356	8.948	8.084	4,30	3,50	418
Belgium (Wallonia Region)	2014	Blanc-Bleu Belge	2.301	301	4.362	4.211	3,59	3,27	389
Belgium (Wallonia Region)	2015	Blanc-Bleu Belge	2.313	298	4.378	4.222	3,63	3,26	389

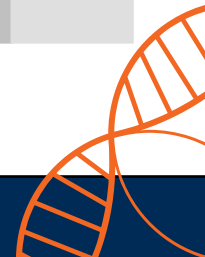
<sup>1</sup> 753 kgs f+p

Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Belgium (Wallonia Region)	2014	Holstein	40.894	360	8.908	7.837	3,92	3,36	421
Belgium (Wallonia Region)	2015	Holstein	42.047	358	9.023	7.983	3,93	3,36	420
Belgium (Wallonia Region)	2014	Montbeliarde	755	343	7.401	6.672	3,81	3,45	406
Belgium (Wallonia Region)	2015	Montbeliarde	987	344	7.747	7.004	3,87	3,45	404
Belgium (Wallonia Region)	2014	Normande	268	339	6.766	3.162	4,10	3,56	402
Belgium (Wallonia Region)	2015	Normande	295	337	6.817	6.211	4,09	3,56	409
Belgium (Wallonia Region)	2014	Red Holstein	6.508	355	8.054	7.200	4,10	3,42	417
Belgium (Wallonia Region)	2015	Red Holstein	6.481	350	8.110	7.308	4,11	3,42	413
Belgium (Wallonia Region)	2015	Rouge-Pie Est de la Belgique	459	304	5.087	5.061	4,19	3,46	393
Canada	2014	Ayrshire	8.146	305		7.781	4,11	2,61	

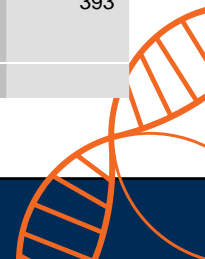




Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Canada	2014	Brown Swiss	1.731	305		8.401	4,20	3,49	
Canada	2014	Canadienne	194	305		5.752	4,34	3,57	
Canada	2014	Guernsey	370	305		6.759	4,69	3,43	
Canada	2014	Holstein	287.223	305		10.102	3,87	3,19	
Canada	2014	Jersey	11.334	305		6.610	5,00	3,80	
Canada	2014	Milking Shorthorn	347	305		6.806	3,94	3,28	
China (Shanghai DBC)	2014	Holstein	41.178	348	9.078	8.720	3,59	3,18	420
China (Shanghai DBC)	2015	Holstein	44.945	356	9.409	8.830	3,61	3,19	417
China (DCRC Shandong)	2014	Holstein		212	25	7.358	3,87	3,31	449
China (DCRC Shandong)	2015	Holstein		208	27	8.320	3,88	3,26	438
Croatia	2014	Brown	1.373	375	6.579	5.600	4,01	3,44	436
Croatia	2015	Brown	1.334	367	6.479	5.502	4,00	3,45	447
Croatia	2014	Holstein	28.028	388	8.589	7.160	3,99	3,30	447
Croatia	2015	Holstein	29.219	382	8.757	7.337	3,97	3,30	449
Croatia	2014	Simmental	40.698	361	5.805	5.030	4,01	3,35	411
Croatia	2015	Simmental	39.949	358	5.725	4.967	4,04	3,34	412

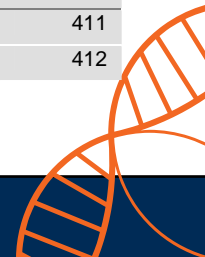


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Czech Rep	2014	Fleckvieh	107.686	294	7.016		3,98	3,50	397
Czech Rep	2015	Fleckvieh	108.046	294	7.130		3,98	3,53	394
Czech Rep	2014	Holstein	159.146	299	9.405		3,79	3,32	414
Czech Rep	2015	Holstein	164.769	298	9.582		3,77	3,34	412
Czech Rep	2014	Montbeliarde	1.018	298	8.082		3,92	3,48	394
Czech Rep	2015	Montbeliarde	1.252	297	8.000		3,95	3,52	393
Estonia	2014	Estonian Holstein	72.810	335	8.932	8.978	3,91	3,31	418
Estonia	2015	Estonian Holstein	69.772	341	9.082	9.036	3,90	3,32	418
Estonia	2014	Estonian Red	18.356	328	8.090	8.043	4,07	3,41	406
Estonia	2015	Estonian Red	17.247	330	8.105	8.100	4,08	3,41	407
Finland	2014	Finnish Ayrshire	132.627	305	8.749	8.844	4,27	3,44	415
Finland	2015	Finnish Ayrshire	110.972	305	9.055	9.128	4,41	3,55	411
Finland	2014	Finnish Cattle	2.723	305	6.104	6.270	4,39	3,44	406
Finland	2015	Finnish Cattle	2.276	305	6.272	6.449	4,44	3,48	402
Finland	2014	Holstein	95.839	305	9.707	9.748	3,96	3,31	417
Finland	2015	Holstein	87.515	305	10.017	10.070	4,12	3,44	415

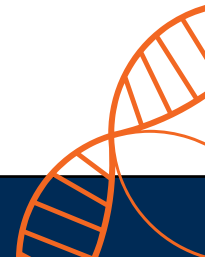


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Finland <sup>2</sup>	2014	Jersey	420	305	7.958	7.724	4,84	3,63	402
Finland	2015	Jersey	559	305	8.076	7.887	5,07	3,77	402
France	2014	Abondance	23.183	298	5.358	5.048	3,71	3,35	404
France	2015	Abondance	23.412	298	5.390	5.085	3,69	3,33	405
France	2014	Brune	17.191	338	7.224	6.261	4,16	3,42	427
France	2015	Brune	17.344	338	7.367	6.364	4,16	3,42	427
France	2014	Montbeliarde	435.538	311	6.961	6.394	3,87	3,30	400
France	2015	Montbeliarde	439.609	308	7.079	6.514	3,87	3,29	399
France	2014	Normande	225.836	324	6.496	5.821	4,21	3,46	406
France	2015	Normande	217.642	322	6.488	5.828	4,21	3,46	405
France	2014	Pie Rouge des Plaines	10.249	331	7.751	6.935	4,25	3,32	414
France	2015	Pie Rouge des Plaines	10.221	330	7.779	6.952	4,25	3,32	411
France	2014	Prim Holstein	1.718.590	353	9.329	7.937	3,91	3,19	430
France	2015	Prim Holstein	1.706.420	348	9.352	7.996	3,90	3,18	429

<sup>2</sup> High proportion of cross-bred animals in this breed

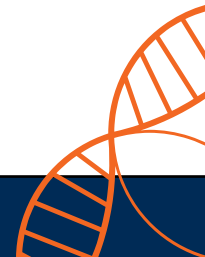


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
France	2014	Simmental Françoise	16.975	305	6.064	5.659	4,00	3,38	393
France	2015	Simmental Françoise	16.938	302	6.159	5.751	3,99	3,37	393
Germany	2014	Braunvieh	165.166	324	7.255	7.103	4,23	3,60	416
Germany	2015	Braunvieh	163.665	324	7.269	7.186	4,24	3,57	414
Germany	2014	Fleckvieh	898.191	318	7.392	7.159	4,15	3,50	393
Germany	2015	Fleckvieh	897.522	317	7.406	7.242	4,14	3,49	392
Germany	2014	Holstein B&W	2.175.488	322	8.994	8.882	4,02	3,38	413
Germany	2015	Holstein B&W	2.182.043	321	9.087	8.975	4,01	3,38	412
Germany	2014	Holstein R&W	247.070	320	8.044	7.930	4,17	3,42	410
Germany	2015	Holstein R&W	245.076	319	8.131	8.059	4,18	3,43	409
Hungary	2014	Hungarian Holstein Friesian	125.216	298		9.240	3,71	3,29	439
Hungary	2014	Hungarian Red Spotted	3.004	292		6.061	4,02	3,49	410
Italy	2014	Bruna Italiana (Italian Brown)	53.090	305	7.048	7.048	4,00	3,54	
Italy	2015	Bruna Italiana (Italian Brown)	51.013	305	7.095	7.095	4,00	3,52	
Italy	2014	Frisona Italiana (Italian Friesian)	666.745	305	9.188	9.188	3,69	3,28	
Italy	2015	Frisona Italiana (Italian Friesian)	666.747	305	9.325	9.325	3,67	3,25	

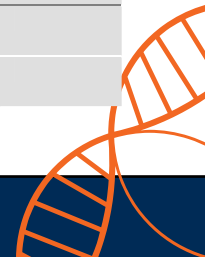


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Italy	2014	Grigio Alpina (Grey of Alps)	7.056	305	4.945	4.945	3,72	3,34	
Italy	2015	Grigio Alpina (Grey of Alps)	6.930	305	4.938	4.938	3,72	3,33	
Italy	2014	Pezzata Rossa Italiana (Italian red spotted)	41.629	305	6.540	6.540	3,89	3,41	
Italy	2015	Pezzata Rossa Italiana (Italian red spotted)	42.074	305	6.592	6.592	3,88	3,39	
Italy	2014	Valdostana Pezzata Rossa (Valdostana Red Spotted)	9.995	305	3.672	3.672	3,48	3,26	
Italy	2015	Valdostana Pezzata Rossa (Valdostana Red Spotted)	9.787	305	3.652	3.652	3,48	3,25	
Latvia	2014	Holstein Black and White	6.836	389		8.643	3,88	3,30	
Latvia	2015	Holstein Black and White	9.497	388		9.073	3,87	3,34	
Latvia	2014	Latvian Blue	439	357		5.002	4,25	3,35	
Latvia	2015	Latvian Blue	427	363		5.158	4,26	3,34	
Latvia	2014	Latvian Brown	38.698	361		6.129	4,33	3,34	
Latvia	2015	Latvian Brown	35.798	358		6.346	4,35	3,34	

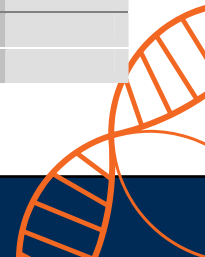


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Luxembourg	2014	Holstein-SBT	30.086	314	7.849		4,08	3,38	424
Luxembourg	2015	Holstein-SBT	31.443	314	8.129		4,07	3,37	424
Luxembourg	2014	Holstein-RBT	4.883	309	7.018		4,27	3,43	418
Luxembourg	2015	Holstein-RBT	4.872	307	7.239		4,27	3,43	419
Morocco	2015	Holstein and Montbeliarde	20.000	400	6.000	5.200	3,60	3,40	460
New Zealand	2014	Ayrshire	17.438	225	4.235	5.278	4,27	3,52	370
New Zealand	2014	Friesian	901.915	215	4.675	6.011	4,27	3,59	369
New Zealand	2014	Friesian x Jersey	1.349.738	216	4.209	5.395	4,77	3,81	368
New Zealand	2014	Jersey	317.750	217	3.371	4.306	5,49	4,05	368
Norway	2014	Holstein	1.674	324	9.410	8.962	4,11	3,36	395
Norway	2015	Holstein	1.852	324	9.593	9.225	4,15	3,38	399
Norway	2014	Jersey	1.031	319	6.166	5.949	5,96	3,99	403
Norway	2015	Jersey	1.069	312	6.229	6.032	0,01	4,01	398
Norway	2014	Norwegian Red	159.854	303	7.588	7.206	4,24	3,45	381
Norway	2015	Norwegian Red	155.104	303	7.731	7.370	4,30	3,47	381
Poland	2014	Jersey	1.057	305	6.009	6.009	5,10	3,84	414
Poland	2015	Jersey	1.021	305	6.212	6.212	5,04	3,85	412
Poland	2014	Montbeliarde	2.612	305	7.203	7.203	3,97	3,49	421
Poland	2015	Montbeliarde	2.839	305	7.529	305	3,95	3,51	420

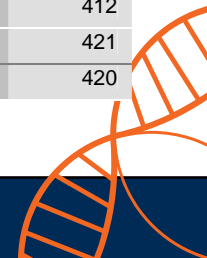


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Poland	2014	Polish Black-White	2.080	305	4.710	4.710	4,11	3,30	421
Poland	2015	Polish Black-White	3.668	305	4.471	4.471	4,09	3,23	408
Poland	2015	Polish Black-White	2.015	305	4.653	4.653	4,16	3,29	416
Poland	2015	Polish Holstein Friesian	649.407	305	7.950	7.950	4,07	3,35	435
Poland	2015	Polish Holstein Friesian	25.586	305	7.183	7.183	4,17	3,38	423
Poland	2014	Polish Holstein Friesian	636.226	305	7.742	7.742	4,07	3,35	436
Poland	2014	Polish Holstein-Friesian	24.118	305	7.068	7.068	4,15	3,37	422
Poland	2014	Polish Red-White	3.580	305	4.635	4.635	4,08	3,26	407
Poland	2014	Red Polish	2.787	305	3.588	3.588	4,31	3,38	409
Poland	2015	Red Polish	2.856	305	3.541	3.541	4,25	3,35	416
Poland	2014	Simmental	10.768	305	6.030	6.030	4,12	3,46	407
Poland	2015	Simmental	10.571	305	6.075	6.075	4,15	3,44	409
Serbia <sup>3</sup>	2015	Brown Swiss	77	359	7.589	6.496	3,84	3,25	463

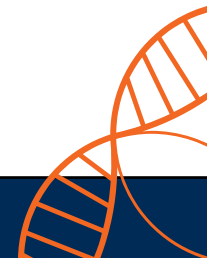


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Serbia <sup>1</sup>	2014	Holstein-Friesian	27.828	358	7.332	6.521	3,89	3,21	456
Serbia <sup>1</sup>	2015	Holstein-Friesian	29.015	354	7.524	6.804	3,81	3,22	450
Serbia <sup>1</sup>	2014	Simmental	6.751	332	6.132	5.828	4,00	3,25	433
Serbia <sup>1</sup>	2015	Simmental	7.246	341	5.908	5.745	3,91	3,25	428
Slovak Rep.	2014	Holstein	32.771	298	8.601	8.752	3,83	3,27	436
Slovak Rep.	2015	Holstein	26.719	297	9.248	9.434	3,75	3,25	433
Slovak Rep.	2014	Slovak Pinzgauer	669	292	4.332	4.476	3,89	3,44	413
Slovak Rep.	2015	Slovak Pinzgauer	636	292	4.506	4.655	3,83	3,41	416
Slovak Rep.	2014	Slovak Simmental	13.486	294	6.084	6.254	4,02	3,45	408
Slovak Rep.	2015	Slovak Simmental	12.588	292	6.423	6.636	3,94	3,43	407
South Africa	2014	Ayrshire	1.152	289	6.528	7.481	4,09	3,42	411
South Africa	2015	Ayrshire	1.115	216	5.418	7.891	3,94	3,26	419
South Africa	2014	Guernsey	781	319	6.599	6.644	4,38	3,55	413
South Africa	2015	Guernsey	737	219	5.202	7.103	4,21	3,39	420
South Africa	2014	Holstein	25.070	320	9.445	9.559	3,89	3,35	445
South Africa	2015	Holstein	21.799	251	7.668	9.760	3,82	3,19	451
South Africa	2014	Jersey	27.829	292	5.267	5.915	4,87	3,83	419
South Africa	2015	Jersey	26.059	242	4.392	5.718	4,78	3,71	436

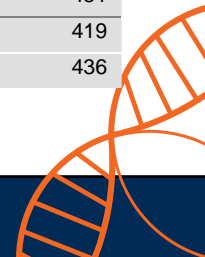




Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
South Korea (by DCIC Centre)	2014	Holstein	159.068			10.057	3,79	3,22	464
South Korea (by DCIC Centre)	2015	Holstein	148.608			10.289	3,76	3,22	466
South Korea (by KAI Assoc.)	2014	Holstein		305		10.057	3,81	3,21	464
South Korea (by KAI Assoc.)	2015	Holstein		305		10.289	3,76	3,22	466
Spain	2014	Frisona	351.830	370	11.425	9.736	3,62	3,20	432
Spain	2015	Frisona	349.539	368	11.523	9.873	3,59	3,19	430
Spain	2014	Parida Alpina	965	352	7.757	6.706	3,75	3,46	386
Spain	2015	Parida Alpina	1.104	350	7.924	6.825	3,78	3,48	363
Sweden	2014	Swedish Holstein	141.524	365	9.976		4,08	3,39	407
Sweden	2015	Swedish Holstein	138.192	365	10.133		4,09	3,40	407
Sweden	2014	Swedish Jersey	1.845	365	6.820		5,84	4,06	404
Sweden	2015	Swedish Jersey	1.849	365	6.963		5,87	4,09	401
Sweden	2014	Swedish Polled	839	365	5.515		4,40	3,56	401
Sweden	2015	Swedish Polled	892	365	5.548		4,45	3,56	407
Sweden	2014	Swedish Red	103.686	365	8.855		4,35	3,57	395
Sweden	2015	Swedish Red	97.357	365	9.014		4,36	3,57	393

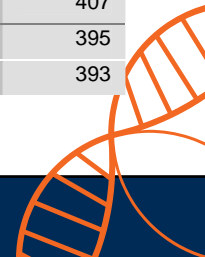


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Switzerland	2014	Black Holstein	72.407	301	8.406	8.496	3,96	3,21	408
Switzerland	2015	Black Holstein	75.541	301	8.498	8.589	3,94	3,23	407
Switzerland	2014	Braunvieh	128.346	300	6.917	7.004	4,06	3,38	416
Switzerland	2015	Braunvieh	124.991	300	7.059	7.147	4,03	3,40	415
Switzerland	2014	Eringer	572	281	3.352	3.563	3,79	3,39	410
Switzerland	2015	Eringer	572	281	3.354	3.565	3,70	3,37	410
Switzerland	2015	Evolener	30	296	2.992	3.060	3,83	3,45	
Switzerland	2014	Evolener	25	296	2.992	3.060	3,77	3,46	
Switzerland	2014	Grauvieh	289	296	4.405	4.505	3,72	3,22	382
Switzerland	2015	Grauvieh	313	296	4.453	4.554	3,71	3,22	387
Switzerland	2015	Hinterwaelder	136	296	3.991	4.082	4,06	3,40	362
Switzerland	2014	Hinterwaelder	125	291	3.828	3.965	4,08	3,40	368
Switzerland	2014	Jersey	2.795	299	5.466	5.548	5,30	3,84	405
Switzerland	2015	Jersey	2.970	299	5.641	5.726	5,26	3,87	407
Switzerland	2015	Montbeliarde	6.186	299	7.269	7.378	3,72	3,35	393
Switzerland	2014	Montbeliarde	5.879	299	7.269	7.378	3,75	3,32	393
Switzerland	2014	Normande	656	299	6.677	6.777	4,09	3,42	390
Switzerland	2015	Normande	694	299	6.677	6.777	4,04	3,43	390
Switzerland	2014	Pinzgauer	57	299	5.645	5.730	3,83	3,31	
Switzerland	2015	Pinzgauer	65	299	5.645	5.730	3,80	3,31	

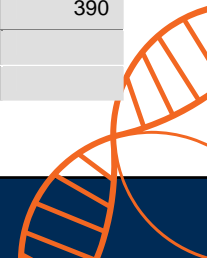


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
Switzerland	2014	Red Holstein	80.532	300	7.783	7.880	4,06	3,25	395
Switzerland	2015	Red Holstein	77.281	300	7.783	7.880	4,03	3,27	395
Switzerland	2014	Simmental	15.214	298	5.796	5.898	3,94	3,32	383
Switzerland	2015	Simmental	15.058	298	5.796	5.898	3,93	3,34	383
Switzerland	2014	Swiss Fleckvieh	45.129	299	6.766	6.868	4,05	3,26	385
Switzerland	2015	Swiss Fleckvieh	46.514	299	6.766	6.868	3,93	3,34	385
Switzerland	2014	Water Buffalo	137	298	2.935	2.987	7,45	4,41	402
Switzerland	2015	Water Buffalo	122	298	2.935	2.987	7,46	4,41	
Taiwan	2014	Holstein	25.560	383	9.464	7.537	3,84	3,29	
Taiwan	2015	Holstein	26.591	385	9.970	7.899	3,83	3,30	
Taiwan	2014	Jersey	146	346	6.773	5.971	5,07	3,93	
Taiwan	2015	Jersey	194	328	6.447	5.995	4,80	3,78	
Tunisia	2014	Brown Swiss	552	357	5.621	5.092			440
Tunisia	2015	Brown Swiss	556	360	5.759	5.113			439
Tunisia	2014	Holstein	10.731	370	6.301	5.665			450
Tunisia	2015	Holstein	9.090	372	6.373	5.754			452
Tunisia	2014	Tarentais	149	319	3.971	3.659			419
Tunisia	2015	Tarentais	117	310	3.882	3.839			413
UK - England (by CIS)	2014	Ayrshire	2.345	320	7.342	6.691	4,14	3,27	410
UK - England (by CIS)	2015	Ayrshire	2.806	312	7.233	6.622	4,09	3,28	414

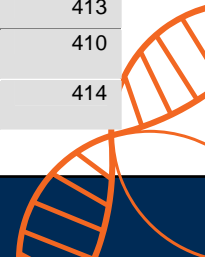


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - England (by CIS)	2014	Brown Swiss	794	337	7.363	6.440	4,24	3,40	425
UK - England (by CIS)	2015	Brown Swiss	1.069	322	7.078	6.237	4,12	3,42	420
UK - England (by CIS)	2014	Friesian	5.709	318	7.004	6.461	4,16	3,34	398
UK - England (by CIS)	2015	Friesian	6.131	314	7.010	6.466	4,14	3,34	396
UK - England (by CIS)	2014	Guernsey	408	303	5.894	5.337	5,02	3,47	418
UK - England (by CIS)	2015	Guernsey	427	331	6.229	5.540	4,82	3,47	406
UK - England (by CIS)	2014	Holstein	217.647	339	9.696	8.481	3,97	3,17	420
UK - England (by CIS)	2015	Holstein	233.197	332	9.682	8.535	3,95	3,19	417
UK - England (by CIS)	2015	Jersey	11.101	312	6.007	5.474	5,33	3,80	401
UK - England (by CIS)	2015	Montbeliarde	2.280	316	7.857	7.123	4,04	3,34	398
UK - England (by CIS)	2015	Other Breeds	501	324	6.857	6.151	4,05	3,37	410
UK - England (by CIS)	2015	Shorthorn	3.233	301	7.076	6.561	4,02	3,32	398

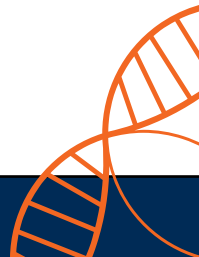


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - England+Wales (by NMR)	2014	Ayrshire	9.563	336	7.406	6.871	4,11	3,38	407
UK - England+Wales (by NMR)	2015	Ayrshire	9.365	334	7.377	6.816	4,06	3,41	406
UK - England+Wales (by NMR)	2014	Friesian	9.563	336	7.406	6.871	4,11	3,38	407
UK - England+Wales (by NMR)	2015	Friesian	5.954	333	7.166	6.610	4,08	3,41	392
UK - England+Wales (by NMR)	2014	Holstein	452.386	359	9.799	8.705	3,98	3,27	415
UK - England+Wales (by NMR)	2015	Holstein	452.497	355	9.760	8.646	3,97	3,30	412
UK - England+Wales (by NMR)	2014	Jersey	15.491	339	6.545	5.982	5,32	3,84	402
UK - England+Wales (by NMR)	2015	Jersey	15.159	341	6.532	5.879	5,29	3,88	401

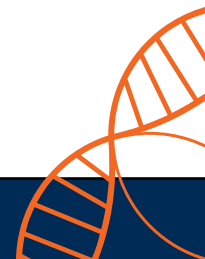


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - England+Wales (by NMR)	2014	Montbeliarde	4.565	333	7.715	7.190	3,93	3,38	393
UK - England+Wales (by NMR)	2015	Montbeliarde	5.093	330	7.756	7.153	3,94	3,40	391
UK - England+Wales (by NMR)	2014	Shorthorn	11.122	326	7.371	6.938	4,06	3,39	391
UK - England+Wales (by NMR)	2015	Shorthorn	12.349	327	7.435	6.922	4,07	3,42	390
UK - Jersey Island	2014	All Breeds	3.117	327	5.380	4.894	5,29	3,70	409
UK - Jersey Island	2015	Jersey	3.382	314	5.357	4.931	5,21	3,71	405
UK - N. Ireland (by CIS)	2014	Ayrshires	1.940	311	6.564	6.018	4,07	3,29	416
UK - N. Ireland (by CIS)	2015	Ayrshires	1.749	317	6.897	6.339	4,02	3,30	419
UK - N. Ireland (by CIS)	2015	Brown Swiss	19	290	5.998	5.839	3,92	3,53	378
UK - N. Ireland (by CIS)	2014	Friesian	1.269	310	6.904	6.339	4,13	3,31	387
UK - N. Ireland (by CIS)	2015	Friesian	1.249	309	7.283	6.706	4,15	3,31	390

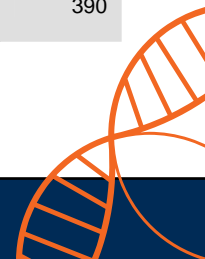


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - N. Ireland (by CIS)	2014	Holstein	83.330	333	8.668	7.642	3,99	3,22	415
UK - N. Ireland (by CIS)	2015	Holstein	87.568	327	8.613	7.653	3,95	3,21	415
UK - N. Ireland (by CIS)	2014	Jersey	640	331	6.348	5.552	5,17	3,76	397
UK - N. Ireland (by CIS)	2015	Jersey	685	327	6.455	5.687	5,12	3,73	403
UK - N. Ireland (by CIS)	2014	Montbeliarde	891	304	7.302	6.673	3,99	3,36	381
UK - N. Ireland (by CIS)	2015	Montbeliarde	1.035	313	7.400	6.804	4,04	3,35	395
UK - N. Ireland (by CIS)	2014	Other Breeds	209	310	6.370	5.850	4,00	3,42	385
UK - N. Ireland (by CIS)	2015	Other breeds	193	298	6.177	5.725	4,00	3,44	390
UK - N. Ireland (by CIS)	2014	Shorthorn	488	319	7.219	6.722	3,97	3,29	391
UK - N. Ireland (by CIS)	2015	Shorthorn	561	317	7.387	6.895	3,94	3,31	393
UK - N. Ireland (by NMR)	2014	Ayrshire	740	317	7.003	6.651	4,01	3,29	410
UK - N. Ireland (by NMR)	2015	Ayrshire	732	322	6.918	6.479	4,13	3,33	404
UK - N. Ireland (by NMR)	2014	Friesian	260	361	8.512	7.197	4,05	3,31	402
UK - N. Ireland (by NMR)	2015	Friesian	165	328	7.459	6.872	4,11	3,39	380

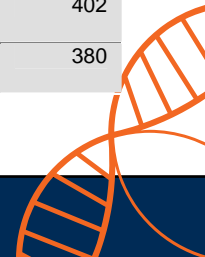


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - N. Ireland (by NMR)	2014	Holstein	32.160	352	9.346	8.281	4,01	3,25	411
UK - N. Ireland (by NMR)	2015	Holstein	30.965	342	9.120	8.160	4,03	3,24	410
UK - N. Ireland (by NMR)	2014	Jersey	616	328	6.844	6.288	5,12	3,78	400
UK - N. Ireland (by NMR)	2015	Jersey	490	321	6.394	5.805	5,19	3,84	394
UK - N. Ireland (by NMR)	2014	Montbeliarde	794	340	7.603	6.791	4,03	3,39	385
UK - N. Ireland (by NMR)	2015	Montbeliarde	764	321	7.185	6.753	4,07	3,38	385
UK - N. Ireland (by NMR)	2014	Shorthorn	290	317	7.657	7.231	4,24	3,38	390
UK - N. Ireland (by NMR)	2015	Shorthorn	291	319	7.765	7.229	4,29	3,38	390
UK - Scotland (by CIS)	2014	Ayrshire	8.233	324	7.582	6.894	4,12	3,31	418
UK - Scotland (by CIS)	2015	Ayrshire	8.806	317	7.466	6.835	4,08	3,31	418
UK - Scotland (by CIS)	2014	Brown Swiss	354	385	8.281	6.702	3,91	3,45	404
UK - Scotland (by CIS)	2015	Brown Swiss	406	304	7.036	6.192	4,02	3,46	449
UK - Scotland (by CIS)	2014	Friesian	2.690	325	7.084	6.458	4,24	3,30	409
UK - Scotland (by CIS)	2015	Friesian	2.380	322	7.090	6.508	4,21	3,32	406

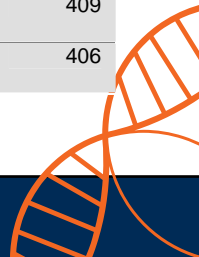




Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - Scotland (by CIS)	2014	Holstein	91.515	339	9.676	8.480	3,83	3,10	419
UK - Scotland (by CIS)	2015	Holstein	98.616	328	9.512	8.438	3,80	3,11	417
UK - Scotland (by CIS)	2014	Jersey	1.309	300	6.155	5.481	5,25	3,74	429
UK - Scotland (by CIS)	2015	Jersey	1.847	295	5.871	5.427	5,03	3,81	391
UK - Scotland (by CIS)	2014	Montbeliarde	2.417	320	8.207	7.501	3,95	3,31	392
UK - Scotland (by CIS)	2015	Montbeliarde	2.740	308	8.109	7.509	3,90	3,32	393
UK - Scotland (by CIS)	2014	Other Breeds	278	302	6.479	6.037	4,14	3,33	388
UK - Scotland (by CIS)	2015	Other Breeds	273	291	6.139	5.826	4,03	3,31	387
UK - Scotland (by CIS)	2014	Shorthorn	725	308	7.517	6.977	4,13	3,37	391
UK - Scotland (by CIS)	2015	Shorthorn	893	302	7.502	7.038	4,04	3,37	392
UK - Scotland (by NMR)	2014	Ayrshire	899	342	8.898	8.229	3,94	3,32	412
UK - Scotland (by NMR)	2015	Ayrshire	398	333	8.055	7.363	3,86	3,37	394
UK - Scotland (by NMR)	2014	Friesian	81	420	11.194	8.107	3,72	3,20	394
UK - Scotland (by NMR)	2015	Friesian	28	343	8.267	7.487	4,04	3,39	441

Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - Scotland (by NMR)	2014	Holstein	8.762	366	11.022	9.530	3,84	3,23	411
UK - Scotland (by NMR)	2015	Holstein	7.828	356	10.624	9.267	3,89	3,28	408
UK - Scotland (by NMR)	2014	Jersey	261	337	6.249	5.761	5,43	3,92	427
UK - Scotland (by NMR)	2015	Jersey	253	353	7.361	6.606	5,59	3,91	427
UK - Scotland (by NMR)	2014	Montbeliarde	53	334	8.663	8.077	4,00	3,39	388
UK - Scotland (by NMR)	2015	Montbeliarde	65	318	8.448	7.811	3,97	3,39	387
UK - Scotland (by NMR)	2014	Shorthorn	81	344	8.557	7.742	4,07	3,41	395
UK - Scotland (by NMR)	2015	Shorthorn	111	322	8.042	7.614	4,09	3,42	388
UK - Wales	2014	Ayrshire	376	325	7.609	6.782	4,69	3,26	419
UK - Wales	2015	Ayrshire	467	270	6.174	5.710	4,48	3,26	422
UK - Wales	2014	Brown Swiss	303	328	7.274	6.610	4,25	3,46	426
UK - Wales	2015	Brown Swiss	362	313	7.218	6.621	4,14	3,44	423
UK - Wales	2014	Friesian	525	317	6.735	6.246	4,11	3,35	393
UK - Wales	2015	Friesian	697	313	6.262	5.829	4,32	3,41	392
UK - Wales	2014	Guernsey	41	311	6.782	6.351	5,13	3,53	408
UK - Wales	2015	Guernsey	51	286	5.720	5.409	5,05	3,48	394

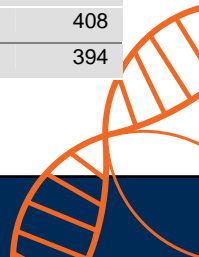


Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
UK - Wales	2014	Holstein	31.237	337	9.274	8.129	4,07	3,17	421
UK - Wales	2015	Holstein	35.372	327	9.232	8.170	4,04	3,19	419
UK - Wales	2014	Jersey	1.019	308	5.802	5.377	5,45	3,66	396
UK - Wales	2015	Jersey	1.284	269	5.501	5.094	5,20	3,67	394
UK - Wales	2014	Montbeliarde	27	308	8.091	7.483	4,17	3,46	380
UK - Wales	2015	Montbeliarde	33	287	6.132	5.768	4,09	3,43	377
UK - Wales	2014	Other Breeds	32	325	6.932	6.258	4,03	3,48	377
UK - Wales	2015	Other Breeds	30	314	7.160	6.677	4,00	3,41	371
UK - Wales	2014	Shorthorn	156	305	8.014	7.384	4,23	3,32	392
UK - Wales	2015	Shorthorn	251	293	6.888	6.453	4,09	3,30	392
USA - (by NDHIA) <sup>4</sup>	2014	Ayrshire	3.903	305	6.720	6.720	3,93	3,21	
USA - (by NDHIA) <sup>4</sup>	2015	Ayrshire	3.643	305	6.861	6.861	3,93	3,19	
USA - (by NDHIA) <sup>4</sup>	2014	Brown Swiss	10.944	305	8.396	8.396	4,20	3,44	
USA - (by NDHIA) <sup>4</sup>	2015	Brown Swiss	10.921	305	8.637	8.637	4,15	3,42	
USA - (by NDHIA) <sup>4</sup>	2014	Guernsey	4.335	305	7.046	7.046	4,65	3,38	
USA - (by NDHIA) <sup>4</sup>	2015	Guernsey	4.427	305	7.096	7.096	4,63	3,38	

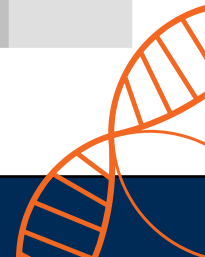
<sup>4</sup> DHI herd averages

Table 4.3 - Main breeds - All recorded cows

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	Percent fat content	Percent protein content	Calving interval (days)
USA - (by NDHIA) <sup>4</sup>	2014	Holstein	3.638.177	305	11.169	11.169	3,77	3,08	
USA - (by NDHIA) <sup>4</sup>	2015	Holstein	3.642.037	305	11.321	11.321	3,68	3,08	
USA - (by NDHIA) <sup>4</sup>	2014	Jersey	271.849	305	8.151	8.151	4,80	3,65	
USA - (by NDHIA) <sup>4</sup>	2015	Jersey	291.725	305	8.183	8.183	4,81	3,65	
USA - (by NDHIA) <sup>4</sup>	2014	Milking Shorthorn	1.558	305	6.475	6.475	3,64	3,14	
USA - (by NDHIA) <sup>4</sup>	2015	Milking Shorthorn	1.563	305	6.476	6.476	3,64	3,12	

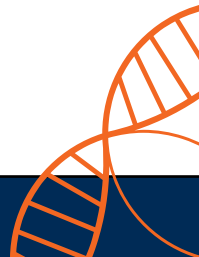


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Austria	2014	Braunvieh	40.985	301		7.185	4,16	3,46	
Austria	2015	Braunvieh	40.628	301		7.207	4,16	3,46	
Austria	2014	Fleckvieh	246.135	298		7.214	4,13	3,41	
Austria	2015	Fleckvieh	251.536	298		7.220	4,15	3,40	
Austria	2014	Grauvieh	2.891	294		4.953	3,97	3,29	
Austria	2015	Grauvieh	2.927	294		4.947	3,94	3,27	
Austria	2014	Holstein	34.572	300		8.694	4,06	3,28	
Austria	2015	Holstein	35.564	300		8.686	4,07	3,28	
Austria	2014	Pinzgauer	5.778	298		5.666	3,86	3,27	
Austria	2015	Pinzgauer	5.756	298		5.677	3,87	3,25	
China (Shandong DCRC)	2014	Holstein		201	25	7.358	3,87	3,31	449
China (Shandong DCRC)	2015	Holstein		208	27	8.320	3,88	3,26	438
China (Shanghai DBC)	2015	Holstein		348	9.078	8.720	3,59		420
China (Shanghai DBC)	2015	Holstein		356	9.409	8.830	6,61		417
Czech Rep.	2014	Fleckvieh	114.365	294	7.059		3,98	3,50	396
Czech Rep.	2015	Fleckvieh	114.590	294	7.174		3,98	3,52	393
Czech Rep.	2014	Holstein	164.740	299	9.431		3,79	3,32	414
Czech Rep.	2015	Holstein	172.255	298	9.594		3,77	3,34	411

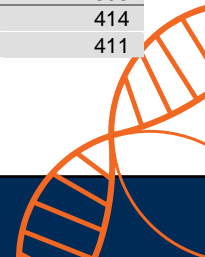


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Estonia	2014	Estonian Holstein	64.376	341	9.095	9.125	3,90	3,31	418
Estonia	2015	Estonian Holstein	62.496	346	9.242	9.171	3,89	3,32	418
Estonia	2014	Estonian Red	16.098	330	8.282	8.223	4,06	3,41	405
Estonia	2015	Estonian Red	15.122	333	8.272	8.259	4,06	3,41	406
Finland	2015	Brown Swiss	24	305		8.529	4,49	3,63	
Finland	2014	Finnish Ayrshire	23.277	305		9.586	4,24	3,45	
Finland	2015	Finnish Ayrshire	22.623	305		9.830	4,31	3,49	
Finland	2014	Finnish Cattle	1.583	305		6.174	4,40	3,46	
Finland	2015	Finnish Cattle	1.375	305		6.244	4,39	3,44	
Finland	2014	Holstein	18.762	305		10.628	3,95	3,33	
Finland	2015	Holstein	19.290	305		10.883	4,01	3,38	
Finland	2014	Jersey	65	305		7.788	5,09	3,80	
Finland	2015	Jersey	105	305		8.114	5,10	3,79	
France	2014	Abondance	23.183	298	5.358	5.048	3,71	3,35	40
France	2015	Abondance	23.412	298	5.390	5.085	3,69	3,33	405
France	2014	Brune	17.191	338	7.224	6.203	4,16	3,42	427
France	2015	Brune	17.344	338	7.367	6.364	4,16	3,42	427
France	2014	Montbeliarde	435.538	311	6.961	6.305	3,87	3,30	400
France	2015	Montbeliarde	439.609	308	7.079	6.514	3,87	3,29	399
France	2014	Normande	225.836	324	6.496	5.766	4,21	3,46	406
France	2015	Normande	217.642	322	6.488	5.828	4,21	3,46	405

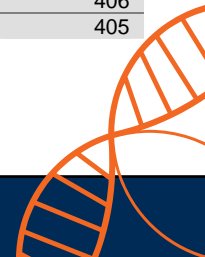


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
France	2014	Pie Rouge des Plaines	10.249	331	7.751	6.867	4,25	3,32	414
France	2015	Pie Rouge des Plaines	10.221	330	7.779	6.952	4,25	3,32	411
France	2014	Prim Holstein	1.718.590	353	9.329	7.905	3,91	3,19	430
France	2015	Prim Holstein	1.706.420	348	9.352	7.996	3,90	3,18	429
France	2014	Simmental Française	16.975	305	6.064	5.522	4,00	3,38	393
France	2015	Simmental Française	16.938	302	6.159	5.751	3,99	3,37	393
Germany	2014	Braunvieh	139.156	319	7.428	7.248	4,23	3,60	414
Germany	2015	Braunvieh	138.394	319	7.430	7.323	4,24	3,57	412
Germany	2014	Fleckvieh	730.823	318	7.574	7.310	4,14	3,51	391
Germany	2015	Fleckvieh	735.953	317	7.586	7.390	4,13	3,49	390
Germany	2014	Holstein B&W	1.721.623	323	9.206	9.082	4,01	3,38	413
Germany	2015	Holstein B&W	1.731.534	322	9.291	9.156	4,00	3,38	412
Germany	2014	Holstein R&W	162.689	322	8.441	8.306	4,15	3,42	411
Germany	2015	Holstein R&W	162.715	320	8.527	8.415	4,15	3,43	409
Hungary	2014	Hungarian Holstein Friesian	125.216	298		9.240	3,71	3,29	439
Hungary	2014	Hungarian Red Spotted	3.004	292		6.061	4,02	3,49	410

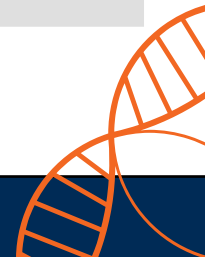


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Italy	2014	Bruna Italiana (Italian Brown)	53.090	305	7.048	7.048	4,00	3,54	
Italy	2015	Bruna Italiana (Italian Brown)	51.013	305	7.095	7.095	4,00	3,52	
Italy	2014	Frisona Italiana (Italian Friesian)	666.745	305	9.188	9.188	3,69	3,28	
Italy	2015	Frisona Italiana (Italian Friesian)	666.747	305	9.325	9.325	3,67	3,25	
Italy	2014	Grigio Alpina (Grey of Alps)	7.056	305	4.945	4.945	3,72	3,34	
Italy	2015	Grigio Alpina (Grey of Alps)	6.930	305	4.938	4.938	3,72	3,33	
Italy	2014	Pezzata Rossa Italiana (Italian Red Spotted)	41.629	305	6.540	6.540	3,89	3,41	

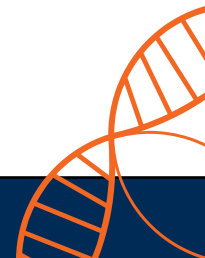




Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Italy	2014	Valdostana Pezzata Rossa (Valdostana Red Spotted)	9.995	305	3.672	3.672	3,48	3,26	
Italy	2015	Valdostana Pezzata Rossa (Valdostana Red Spotted)	9.787	305	3.652	3.652	3,48	3,25	
Latvia	2014	Holstein Black&White	3.785	388		9.461	3,87	3,29	
Latvia	2015	Holstein Black&White	4.757	390		9.859	3,85	3,30	
Latvia	2014	Latvian Brown	14.141	361		6.838	4,33	3,36	
Latvia	2015	Latvian Brown	12.784	359		7.143	4,37	3,37	
New Zealand (by LIC)	2014	Ayrshire	13.672	260	4.807	5.659	4,29	3,53	370
New Zealand (by LIC)	2014	Friesian	39.420	267	3.265	10.008	2,49	3,46	369
Poland	2015	Red Polish	2.433	305	3.627	3.627	4,24	3,35	
Poland	2014	Simmental	8.155	305	5.965	5.965	4,12	3,43	
Poland	2015	Simmental	7.948	305	5.998	5.998	4,10	3,42	
Poland (by PFHB)	2014	Montbeliarde	1.982	305	7.290	7.290	3,94	3,47	
Poland (by PFHB)	2015	Montbeliarde	2.108	305	7.484	7.484	3,89	3,46	

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Poland (by PFHB)	2014	Polish Black-White	1.712	305	4.655	4.655	4,10	3,25	
Poland (by PFHB)	2015	Polish Black-White	1.672	305	4.664	4.664	4,10	3,25	
Poland (by PFHB)	2014	Polish Holstein-Friesian	477.478	305	7.766	7.766	4,03	3,29	
Poland (by PFHB)	2014	Polish Holstein-Friesian	18.277	305	7.036	7.036	4,11	3,33	
Poland (by PFHB)	2015	Polish Holstein-Friesian	489.885	305	7.876	7.876	4,00	3,28	
Poland (by PFHB)	2015	Polish Holstein-Friesian	19.296	305	7.113	7.113	4,11	3,32	
Poland (by PFHB)	2014	Polish Red-White	3.022	305	4.516	4.516	4,11	3,24	
Poland (by PFHB)	2015	Polish Red-White	3.182	305	4.499	4.499	4,06	3,23	
Poland (by PFHB)	2014	Red Polish	2.299	305	3.677	3.677	4,35	3,37	
Serbia	2015	Brown Swiss	77	359	7.589	6.496	3,84	3,25	463
Serbia	2014	Holstein-Friesian	22.092	366	7.677	6.792	4,11	3,33	428
Serbia	2015	Holstein-Friesian	22.741	362	7.579	6.955	3,83	3,22	420
Serbia	2014	Simmental	4.717	332	6.255	5.839	4,18	3,37	420
Serbia	2015	Simmental	5.156	333	6.206	5.818	4,21	3,31	417

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Slovak Republic	2014	Holstein	53.464	298	8.180	8.324	3,90	3,31	428
Slovak Republic	2015	Holstein	53.021	297	8.408	8.577	3,82	3,28	424
Slovak Republic	2014	Slovak Pinzgauer	1.406	293	4.729	4.873	3,91	3,40	413
Slovak Republic	2015	Slovak Pinzgauer	840	292	4.981	5.146	3,86	3,38	412
Slovak Republic	2014	Slovak Simmental	22.766	294	6.044	6.213	4,03	3,42	402
Slovak Republic	2015	Slovak Simmental	22.613	293	6.135	6.322	3,98	3,41	402
South Africa	2014	Ayrshire	980	316	7.534	8.219	4,06	3,38	429
South Africa	2015	Ayrshire	1.020	254	6.407	8.179	3,96	3,27	433
South Africa	2014	Geurnsey	213	295	6.883	7.498	4,40	3,55	425
South Africa	2015	Geurnsy	239	250	6.377	8.046	4,21	3,37	417
South Africa	2014	Holstein	17.852	330	11.901	11.717	3,81	3,33	462
South Africa	2015	Holstein	15.339	247	9.385	12.140	3,76	3,14	465
South Africa	2014	Jersey	16.407	278	5.253	6.207	4,85	3,79	431
South Africa	2015	Jersey	15.500	233	4.374	5.886	4,78	3,66	460
Spain	2014	Frisona	351.830	370	11.425	9.736	3,62	3,20	432
Spain	2015	Frisona	349.539	368	11.523	9.873	3,59	3,19	430
Spain	2014	Parla Alpina	965	352	7.757	6.706	3,75	3,46	386
Spain	2015	Parla Alpina	1.104	350	7.924	6.825	3,78	3,48	363
Switzerland	2014	Black Holstein	72.407	301	8.406	8.496	3,96	3,21	408
Switzerland	2015	Black Holstein	75.541	301	8.498	8.589	3,94	3,23	407

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
Switzerland	2014	Braunvieh	128.346	300	6.917	7.004	4,06	3,38	416
Switzerland	2015	Braunvieh	124.991	300	7.059	7.147	4,03	3,40	415
Switzerland	2014	Eringer	572	281	3.352	3.563	3,79	3,39	410
Switzerland	2015	Eringer	572	281	3.354	3.565	3,70	3,37	410
Switzerland	2014	Evolener	25	296	2.992	3.060	3,77	3,46	
Switzerland	2015	Evolener	30	296	2.992	3.060	3,83	3,45	
Switzerland	2014	Grauvieh	289	296	4.405	4.505	3,72	3,22	382
Switzerland	2015	Grauvieh	313	296	4.453	4.554	3,71	3,22	387
Switzerland	2014	Hinterwaelder	125	291	3.828	3.965	4,08	3,40	368
Switzerland	2015	Hinterwaelder	136	296	3.991	4.082	4,06	3,40	362
Switzerland	2014	Jersey	2.795	299	5.466	5.548	5,30	3,84	405
Switzerland	2015	Jersey	2.970	299	5.641	5.726	5,26	3,87	407
Switzerland	2014	Montbeliarde	5.879	299	7.269	7.378	3,75	3,32	393
Switzerland	2015	Montbeliarde	6.186	299	7.269	7.378	3,72	3,35	393
Switzerland	2014	Normande	656	299	6.677	6.777	4,09	3,42	390
Switzerland	2015	Normande	694	299	6.677	6.777	4,04	3,43	390
Switzerland	2014	Pinzgauer	57	299	5.645	5.730	3,83	3,31	
Switzerland	2015	Pinzgauer	65	299	5.645	5.730	3,80	3,31	
Switzerland	2014	Red Holstein	80.532	300	7.783	7.880	4,06	3,25	395
Switzerland	2015	Red Holstein	77.281	300	7.783	7.880	4,03	3,27	395
Switzerland	2014	Simmental	15.214	298	5.796	5.898	3,94	3,32	383
Switzerland	2015	Simmental	15.058	298	5.796	5.898	3,93	3,34	383
Switzerland	2014	Swiss Fleckvieh	45.129	299	6.766	6.868	4,05	3,26	385
Switzerland	2015	Swiss Fleckvieh	46.514	299	6.766	6.868	3,93	3,34	385
Switzerland	2014	Water Buffalo	137	298	2.935	2.987	7,45	4,41	402
Switzerland	2015	Water Buffalo	122	298	2.935	2.987	7,46	4,41	

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
The Netherlands (by CRV)	2014	Holstein Black & White	601.038	356	9.717	8.785	4,31	3,51	417
The Netherlands (by CRV)	2014	Holstein Black & White	122.246	349	8.904	8.187	4,54	3,62	417
The Netherlands (by CRV)	2014	MRY	7.515	330	6.787	6.464	4,46	3,68	417
Tunisia	2014	Brown Swiss	552	357	5.621	5.092			440
Tunisia	2015	Brown Swiss	556	360	5.759	5.113			439
Tunisia	2014	Holstein	10.731	370	6.301	5.665			450
Tunisia	2015	Holstein	9.090	372	6.373	5.754			452
Tunisia	2014	Tarentais	149	319	3.971	3.659			419
Tunisia	2015	Tarentais	117	310	3.882	3.839			413
Turkey	2014	Brown Swiss	14.160	321	4.431	3.981	3,66	3,46	424
Turkey	2014	Holstein Friesian (Black and White)	239.514	348	7.280	6.244	3,48	3,22	433
Turkey	2014	Holstein Friesian (Red and White)	614	346	7.820	6.747	3,44	3,31	418
Turkey	2014	Simmental	21.956	330	5.156	4.592	3,63	3,40	421
UK - England (by CIS)	2014	Ayrshire	1.651	321	7.107	6.486	4,19	3,27	414
UK - England (by CIS)	2015	Ayrshire	2.052	312	6.918	6.351	4,14	3,29	421

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - England (by CIS)	2014	Brown Swiss	373	359	7.869	6.684	4,26	3,41	443
UK - England (by CIS)	2015	Brown Swiss	474	344	7.566	6.532	4,16	3,43	440
UK - England (by CIS)	2014	Friesian	2.370	323	7.170	6.620	4,15	3,34	402
UK - England (by CIS)	2015	Friesian	2.465	314	7.107	6.616	4,13	3,34	400
UK - England (by CIS)	2015	Guernsey	335	327	6.165	5.509	4,83	3,47	410
UK - England (by CIS)	2014	Holstein	164.847	339	10.033	8.769	3,96	3,16	420
UK - England (by CIS)	2015	Holstein	173.547	334	10.052	8.850	3,93	3,16	418
UK - England (by CIS)	2014	Jersey	7.425	310	5.941	5.388	5,53	3,80	403
UK - England (by CIS)	2015	Jersey	7.766	318	6.120	5.545	5,46	3,82	403
UK - England (by CIS)	2014	Montbeliarde	779	344	8.434	7.464	3,93	3,31	412
UK - England (by CIS)	2015	Montbeliarde	879	329	8.042	7.255	3,91	3,34	405
UK - England (by CIS)	2014	Other Breeds	4	209	5.563	5.385	3,88	3,19	212
UK - England (by CIS)	2015	Other Breeds	2	361	8.988	7.909	3,64	3,11	0

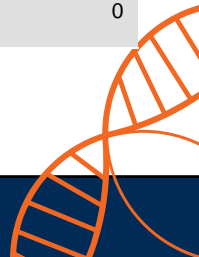


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - England (by CIS)	2014	Shorthorn	1	372	11.809	10.306	3,58	3,21	428
UK - England (by CIS)	2015	Shorthorn	2	459	9.480	7.456	4,25	3,42	673
UK - England+Wales (by NMR)	2014	Ayrshire	5.916	338	7.498	6.949	4,09	3,37	411
UK - England+Wales (by NMR)	2015	Ayrshire	2.775	322	6.666	6.191	3,92	3,37	399
UK - England+Wales (by NMR)	2014	Friesian	3.588	331	7.481	7.018	4,08	3,37	395
UK - England+Wales (by NMR)	2015	Friesian	610	334	7.369	6.828	4,07	3,40	410
UK - England+Wales (by NMR)	2014	Holstein	213.965	362	10.400	9.218	3,95	3,24	417
UK - England+Wales (by NMR)	2015	Holstein	211.226	357	10.364	9.159	3,94	3,26	415
UK - England+Wales (by NMR)	2014	Jersey	10.322	344	6.718	6.090	5,50	3,88	403
UK - England+Wales (by NMR)	2015	Jersey	10.073	346	6.659	5.948	5,46	3,92	402

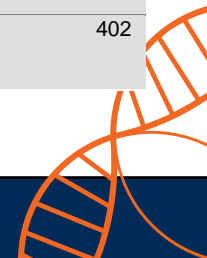


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - England+Wales (by NMR)	2014	Montbeliarde	1.206	339	7.938	7.315	3,82	3,40	402
UK - England+Wales (by NMR)	2015	Montbeliarde	1.290	331	7.694	7.095	3,81	3,41	401
UK - England+Wales (by NMR)	2014	Shorthorn	2.851	326	6.746	6.351	3,94	3,35	399
UK - England+Wales (by NMR)	2015	Shorthorn	3.658	332	7.286	6.755	4,05	3,41	391
UK - Jersey Island	2014	Jersey	3.117	327	5.380	4.894	5,29	3,70	409
UK - Jersey Island	2015	Jersey	3.379	314	5.359	4.932	5,21	3,71	405
UK - N. Ireland (by CIS)	2014	Ayrshire	1.397	317	6.592	6.045	4,07	3,29	419
UK - N. Ireland (by CIS)	2015	Ayrshire	1.406	319	6.843	6.313	4,01	3,29	421
UK - N. Ireland (by CIS)	2015	Brown Swiss	1	348	7.853	7.050	4,01	3,56	0
UK - N. Ireland (by CIS)	2014	Friesian	311	321	7.137	6.618	4,23	3,34	386
UK - N. Ireland (by CIS)	2015	Friesian	340	316	7.327	6.863	4,21	3,37	397

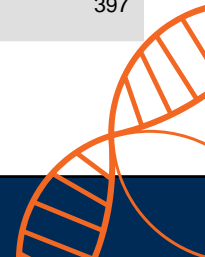




Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - N. Ireland (by CIS)	2014	Holstein	42.617	339	9.444	8.282	3,97	3,20	422
UK - N. Ireland (by CIS)	2015	Holstein	44.891	332	9.321	8.250	3,92	3,19	421
UK - N. Ireland (by CIS)	2014	Jersey	342	346	6.482	5.516	5,38	3,86	414
UK - N. Ireland (by CIS)	2015	Jersey	339	341	6.547	5.676	5,43	3,88	424
UK - N. Ireland (by CIS)	2014	Montbeliarde	67	316	7.505	6.773	3,93	3,29	365
UK - N. Ireland (by CIS)	2015	Montbeliarde	48	281	6.977	6.516	3,79	3,25	396
UK - N. Ireland (by CIS)	2015	Shorthorn	1	265	5.244	6.244	3,24	3,32	401
UK - N. Ireland (by NMR)	2014	Ayrshire	490	317	7.137	6.775	4,04	3,26	406
UK - N. Ireland (by NMR)	2015	Ayrshire	532	324	6.979	6.558	4,11	3,31	408
UK - N. Ireland (by NMR)	2014	Brown Swiss	70	359	7.514	6.703	3,79	3,37	401
UK - N. Ireland (by NMR)	2015	Brown Swiss	74	320	6.269	5.897	3,90	3,33	412
UK - N. Ireland (by NMR)	2014	Friesian	63	313	7.603	7.286	3,93	3,33	389
UK - N. Ireland (by NMR)	2015	Friesian	65	339	8.059	7.369	4,04	3,44	388

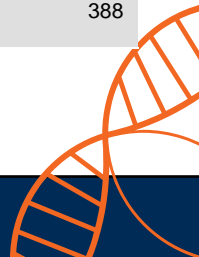


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - N. Ireland (by NMR)	2014	Holstein	10.916	360	10.450	9.196	4,02	3,22	414
UK - N. Ireland (by NMR)	2015	Holstein	10.495	348	10.127	8.990	4,05	3,21	417
UK - N. Ireland (by NMR)	2014	Jersey	319	329	6.927	6.436	5,34	3,87	408
UK - N. Ireland (by NMR)	2015	Jersey	308	322	6.644	6.007	5,31	3,86	395
UK - N. Ireland (by NMR)	2014	Montbeliarde	28	341	8.133	7.395	4,00	3,40	406
UK - N. Ireland (by NMR)	2015	Montbeliarde	24	339	7.975	7.389	3,99	3,44	371
UK - Scotland (by CIS)	2014	Ayrshire	6.087	324	7.675	6.983	4,12	3,31	418
UK - Scotland (by CIS)	2015	Ayrshire	6.612	317	7.612	6.970	4,09	3,30	419
UK - Scotland (by CIS)	2014	Brown Swiss	264	399	8.272	6.490	3,98	3,56	406
UK - Scotland (by CIS)	2015	Brown Swiss	332	300	6.822	5.965	4,06	3,52	459
UK - Scotland (by CIS)	2014	Friesian	436	324	7.586	7.034	4,31	3,33	404
UK - Scotland (by CIS)	2015	Friesian	407	315	7.365	6.930	4,23	3,36	393
UK - Scotland (by CIS)	2014	Holstein	53.384	339	10.060	8.801	3,90	3,15	422
UK - Scotland (by CIS)	2015	Holstein	56.645	330	10.019	8.862	3,85	3,14	420

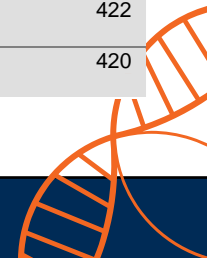
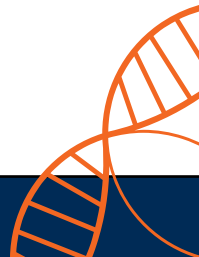


Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - Scotland (by CIS)	2014	Jersey	1.105	295	6.083	5.417	5,34	3,77	434
UK - Scotland (by CIS)	2015	Jersey	693	340	7.301	6.376	5,29	3,78	421
UK - Scotland (by CIS)	2014	Montbeliarde	20	316	7.132	6.718	4,26	3,38	392
UK - Scotland (by CIS)	2015	Montbeliarde	23	302	6.822	6.527	3,98	3,36	382
UK - Scotland (by NMR)	2014	Ayrshire	141	356	6.707	5.990	3,94	3,37	410
UK - Scotland (by NMR)	2015	Ayrshire	137	325	6.189	5.727	3,93	3,40	406
UK - Scotland (by NMR)	2014	Friesian	3	353	11.440	10.642	2,86	3,13	319
UK - Scotland (by NMR)	2014	Holstein	3.264	376	12.257	10.437	3,82	3,23	425
UK - Scotland (by NMR)	2015	Holstein	2.982	363	12.031	10.297	3,82	3,25	421
UK - Scotland (by NMR)	2014	Jersey	216	334	6.244	5.782	5,58	3,95	434
UK - Scotland (by NMR)	2015	Jersey	227	357	7.447	6.645	5,67	3,93	427
UK - Wales	2014	Ayrshire	309	319	7.331	6.653	4,70	3,26	424
UK - Wales	2015	Ayrshire	407	263	5.989	5.602	4,50	3,25	420
UK - Wales	2014	Brown Swiss	243	328	7.200	6.533	4,27	3,49	432
UK - Wales	2015	Brown Swiss	275	317	7.348	6.732	4,14	3,45	424
UK - Wales	2014	Friesian	324	318	6.954	6.442	3,91	3,32	389
UK - Wales	2015	Friesian	402	321	6.894	6.383	4,15	3,34	383

Table 4.4 - Main breeds - Cows in herdbook

Country	Year	Breed	Number of lactations	Length of the lactations (days)	Milk yield per recorded cow (kg)	Milk per cow in 305 days (kg)	% fat content	% protein content	Calving interval (days)
UK - Wales	2014	Guernsey	39	311	6.785	6.347	5,15	3,53	412
UK - Wales	2015	Guernsey	49	287	5.696	5.380	5,09	3,49	403
UK - Wales	2014	Holstein	27.315	338	9.467	8.292	4,06	3,16	423
UK - Wales	2015	Holstein	31.312	328	9.398	8.315	4,02	3,19	420
UK - Wales	2014	Jersey	518	308	5.631	5.102	5,47	3,72	408
UK - Wales	2015	Jersey	574	288	5.417	4.834	5,32	3,72	411
UK - Wales	2015	Other Breeds	1	298	8.356	8.356	3,76	3,42	0





## Sheep Survey (Years 2014 and 2015)

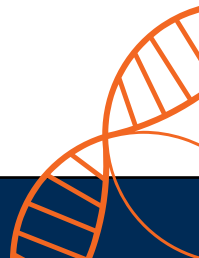


Table 1A - Milk recording and management of the lactation

## SHEEP SURVEY

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Canada	2014				7	1.158					
Croatia	2014	East Frisian	50	2.000	9	390	2	55			
Croatia	2015	East Frisian	50	2.000	9	364	2	37			
Croatia	2014	Istrian Sheep	41	3	33	2.154	2	48			
Croatia	2015	Istrian Sheep	41	2.000	23	1.357	2	42			
Croatia	2014	Paska Sheep	600	30	52	3.934	2	40			
Croatia	2015	Paska Sheep	600	30.000	50	4.388	2	39			
Czech Rep.	2014	All Breeds			47	1.606					
Czech Rep.	2015	All Breeds			40	1.570					
Germany	2014	Lacaune			2	150	1		100		
Germany	2015	Lacaune			3	217	(1)=100%		100		
Germany	2014	Ostfriesisches Milchschaaf			30	566	(1)=97% (2)=3%	43	60		
Germany	2015	Ostfriesisches Milchschaaf			31	715	(1)=100%		65		
France	2015	Basco-Bearnaise	400	78	80	24.039	2	35	85	26	6.625
France	2015	Corse	375	83	53	16.172	2	35	95	49	13.294
France	2015	Lacaune	2.500	890	363	172.836	2	25	100	1.126	486.083
France	2015	Manech Tete Noire	480	80	37	11.747	2	35	95	35	9.300
France	2015	Manech Tete Rousse	1.300	274	215	80.935	2	35	95	65	20.543
Italy	2014	Comisana			392	24.667	2	30			
Italy	2014	Delle Langhe			46	2.303	2	30			

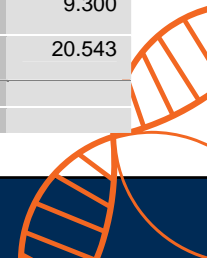


Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Italy	2014	Massese			96	8.248	2	30			
Italy	2014	Pinzirita			164	13.642	2	30			
Italy	2014	Sarda			1.032	212.941	2	30			
Italy	2014	Valle del Belice			833	117.437	2	30			
Slovak Rep.	2014	East Friesian			6	35	2	40	38		
Slovak Rep.	2015	East Friesian			4	23	2	55	50		
Slovak Rep.	2014	Hybrids <sup>1</sup>			11	2	2	53	93		
Slovak Rep.	2015	Hybrids <sup>1</sup>			14	2	2	48	93		
Slovak Rep.	2014	Improved Valachian			22	4	2	45	71		
Slovak Rep.	2015	Improved Valachian			20	3	2	44	55		
Slovak Rep.	2014	Lacaune			16	969	2	53	88		
Slovak Rep.	2015	Lacaune			17	899	2	45	94		
Slovak Rep.	2014	Tsigai			26	3	2	57	77		
Slovak Rep.	2015	Tsigai			21	2	2	57	76		

<sup>1</sup> Synthetic population Slovak Dairy Sheep

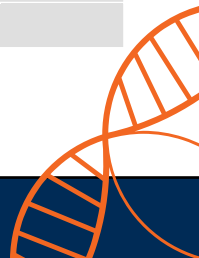


Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Slovak Rep.	2015	Valachian			3	47	2	64	-		
Slovenia	2014	Bovec sheep				1175	1 and 2		100		
Slovenia	2015	Bovec sheep				1197	1 and 2		100		
Slovenia	2014	Istrian Pramenka				197	1 and 2		100		
Slovenia	2015	Istrian Pramenka				266	1 and 2		100		
Slovenia	2014	Improved Bovec sheep				431	1 and 2		100		
Slovenia	2015	Improved Bovec sheep				416	1 and 2		100		
Spain	2014	Carranzana	902	11.658	10	1.574	2) Milking after a suckling period	30			
Spain	2014	Castellana	20	18.000	9	7.000	2) Milking after a suckling period	30	100		

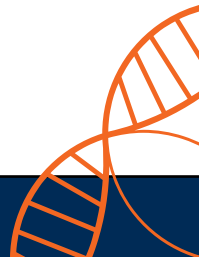
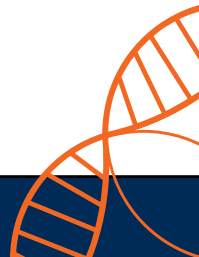




Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Spain	2014	Churra	870	390.000	66	35.094	2) Milking after a suckling period	25	98		
Spain	2015	Churra	800	360.000	64	41.093	2) Milking after a suckling period	25	100		
Spain	2014	Colmenareña	20	7.507	3	2.695	2) Milking after a suckling period	30	100		
Spain	2015	Colmenareña	21	5.748	3	2.755	2) Milking after a suckling period	30	100		
Spain	2014	Lacaune	300	200.000	32	47.497	1) Milking from kidding		10		
Spain	2014	Latxa	8.249	331.770	177	67.060	2) Milking after a suckling period	30	86		



## Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Spain	2014	Manchega	776	526.952	130	122.589	2) Milking after a suckling period	30	100		
Spain	2015	Manchega	762	529.505	137	136.182	2) Milking after a suckling period	30	100		
Spain	2015	Merina de Grazalema	36	4.851	9	1.735	1) Milking from kidding 5 %, 2) Milking after a suckling period 95 %	55	100		
Spain	2014	Merino de Grazalema	36	4.611	11	1.883	(1) Milking from lambing 5%, (2) Milking after a suckling period 95%	55	82		

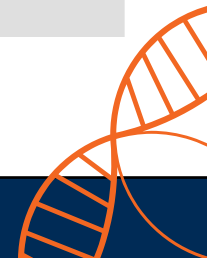


Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Spain	2014	Rubia de el Molar	8	1.817	1	127	2) Milking after a suckling period	30	100		
Spain	2015	Rubia de El Molar	9	1.817	1	146	2) Milking after a suckling period	30	100		

**NOTE**

<sup>1</sup> Inventory at lambing in case of one lambing per year or inventory at a fixed date in the other cases

<sup>2</sup> Answer (1) or (2), if only one system is used (per breed or in the country) as regards lactation ; or percentage of ewes in system (1) and system (2), if used simultaneously.

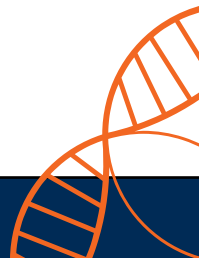


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Croatia	2014	East Friesian	-	AT=100%		
Croatia	2015	East Friesian		"	AT=100%"	
Croatia	2014	Istrian Sheep	-	AT=100%		
Croatia	2015	Istrian Sheep		AT=100%		
Croatia	2014	Paska Sheep	-	"	AT=100%"	
Croatia	2015	Paska Sheep		"	AT=100%"	
Czech Rep.	2014	All Breeds		AT=100%		
Czech Rep.	2015	All Breeds		AT=100%		
Germany	2014	Ostfriesisches Milchschaaf	86			14
Germany	2015	Ostfriesisches Milchschaaf	59	30		11
Germany	2014	Lacaune	100			
France	2015	Basco-Bearnaise			AC = 100	
France	2015	Corse			AC = 100	
France	2015	Lacaune			AC = 100	
France	2015	Manech Tete Noire			AC = 100	
France	2015	Manech Tete Rousse			AC = 100	
Italy	2014	Comisana		AT		
Italy	2014	Delle Langhe		AT		
Italy	2014	Massese		AT		
Italy	2014	Pinzirita		AT		
Italy	2014	Sarda		AT	AC	
Italy	2014	Valle del Belice		AT		
Slovak Rep.	2014	East Friesian			AC=100%	
Slovak Rep.	2015	East Friesian			AC=100%	

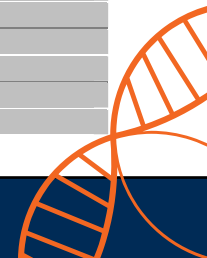


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Slovak Rep.	2014	Hybrids <sup>1</sup>			AC=100%	
Slovak Rep.	2015	Hybrids <sup>1</sup>			AC=100%	
Slovak Rep.	2014	Improved Valachian			AC=100%	
Slovak Rep.	2015	Improved Valachian			AC=100%	
Slovak Rep.	2014	Lacaune			AC=100%	
Slovak Rep.	2015	Lacaune			AC=100%	
Slovak Rep.	2014	Tsigai			AC=100%	
Slovak Rep.	2015	Tsigai			AC=100%	
Slovak Rep.	2015	Valachian			AC=100%	
Slovenia	2014	Istrian Pramenka	0	100% AT4	0	0
Slovenia	2015	Istrian Pramenka	0	100% AT4	0	0
Slovenia	2014	Improved Bovec	0	100% AT4	0	0
Slovenia	2015	Improved Bovec	0	100% AT4	0	0
Slovenia	2014	Bovec	0	100% AT4	0	0
Slovenia	2015	Bovec	0	100% AT4	0	0
Spain	2014	Carranzana		AT= 100 %		
Spain	2014	Castellana		AT4= 100%		
Spain	2014	Churra		AT= 100 %		
Spain	2015	Churra		AT 100 %		
Spain	2014	Colmenareña		AT4 100%		
Spain	2015	Colmenareña		AT4= 100%		
Spain	2014	Lacaune	A4= 100 %			
Spain	2014	Latxa		AT= 43 %	AC= 57 %	

<sup>1</sup> Synthetic population Slovak Dairy Sheep

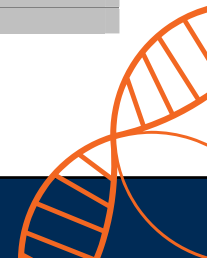


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Spain	2014	Manchega		AT= 100%		
Spain	2015	Manchega		AT 100 %		
Spain	2014	Merina de Grazalema		AT= 100%		
Spain	2015	Merina de Grazalema		AT 100 %		
Spain	2014	Rubia de el Molar		AT4 100%		
Spain	2015	Rubia de el Molar		AT= 100%		

**NOTE**

<sup>1</sup> See the definition of official milk recording method on the ICAR website ([www.icar.org](http://www.icar.org)) in the part dedicated to the milk recording of sheep WG : “Recording guidelines”, Section 2.2

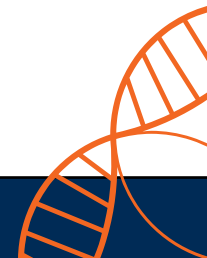


Table 2A - Type of lactation calculation for milk yield

Country	Year	Breed or population (Name)	TSMM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Croatia	2014	East Frisian	Yes	Yes	No	No	No	No
Croatia	2015	East Frisian	Yes	Yes	No	No	No	No
Croatia	2014	Istrian Sheep	Yes	Yes	No	No	No	No
Croatia	2015	Istrian Sheep	Yes	Yes	No	No	No	No
Croatia	2014	Paska Sheep	Yes	Yes	No	No	No	No
Croatia	2015	Paska Sheep	Yes	Yes	No	No	No	No
Czech Rep.	2014	All Breeds						
Czech Rep.	2015	All Breeds						
Germany	2014	Lacaune			Yes			Yes. 150
Germany	2015	Lacaune			Yes			Yes. 150
Germany	2014	Ostfriesisches Milchschaaf	Yes			Yes. 150		
Germany	2015	Ostfriesisches Milchschaaf			Yes			Yes. 150
France	2015	Basco-Bearnaise	No	Yes	No	No	No	No
France	2015	Corse	No	Yes	No	No	No	No
France	2015	Lacaune	No	Yes	No	No	No	No
France	2015	Manech Tet Rousse	No	Yes	No	No	No	No
France	2015	Manech Tete Noire	No	Yes	No	No	No	No
Italy	2014	Comisana	Yes	Yes	No	No	From day 30 from lambing to reference length	No

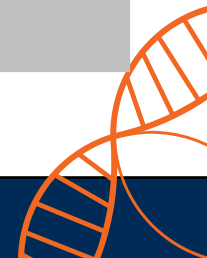
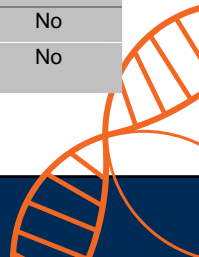


Table 2A - Type of lactation calculation for milk yield

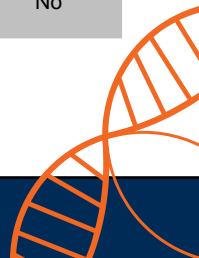
Country	Year	Breed or population (Name)	TSMM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Italy	2014	Delle Langhe	Yes	Yes	No	No	From day 30 from lambing to reference length	No
Italy	2014	Massese	Yes	Yes	No	No	From day 30 from lambing to reference length	No
Italy	2014	Pinzirita	Yes	Yes	No	No	From day 30 from lambing to reference length	No
Italy	2014	Sarda	Yes	Yes	No	No	From day 30 from lambing to reference length	No
Italy	2014	Valle del Belice	y	y	n	No	From day 30 from lambing to reference length	No
Slovak Republic	2014	East Friesian	No	Yes	No	No	Yes. 150	No
Slovak Republic	2015	East Friesian	No	Yes	No	No	Yes. 150	No
Slovak Republic	2014	Hybrids (synthetic population Slovak Dairy Sheep)	No	Yes	No	No	Yes. 150	No





**Table 2A - Type of lactation calculation for milk yield**

Country	Year	Breed or population (Name)	TSMM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Slovak Republic	2015	Hybrids (synthetic population Slovak Dairy Sheep)	No	Yes	No	No	Yes. 150	No
Slovak Republic	2014	Improved Valachian	No	Yes	No	No	Yes. 150	No
Slovak Republic	2015	Improved Valachian	No	Yes	No	No	Yes. 150	No
Slovak Republic	2014	Lacaune	No	Yes	No	No	Yes. 150	No
Slovak Republic	2015	Lacaune	No	Yes	No	No	Yes. 150	No
Slovak Republic	2014	Tsigai	No	Yes	No	No	Yes. 150	No
Slovak Republic	2015	Tsigai	No	Yes	No	No	Yes. 150	No
Slovak Republic	2015	Valachian	No	Yes	No	No	Yes. 150	No
Slovenia	2014	Bovec sheep	Yes	Yes	Yes	No	No	No
Slovenia	2015	Bovec	Yes	Yes	Yes	No	No	No
Slovenia	2014	Improved Bovec	Yes	Yes	Yes	No	No	No
Slovenia	2015	Improved Bovec	Yes	Yes	Yes	No	No	No
Slovenia	2014	Istrian Pramenka	Yes	Yes	Yes	No	No	No
Slovenia	2015	Istrian Pramenka	Yes	Yes	Yes	No	No	No
Spain	2014	Carranzana	Yes	Yes	Yes	Yes	Yes. 120	
Spain	2014	Castellana	Yes	No	Yes	No	Yes. 120 Days	No
Spain	2014	Churra	Yes	Yes	No	No	Yes, 0-120	No
Spain	2015	Churra	Yes	Yes	No	No	Yes 120 days	No

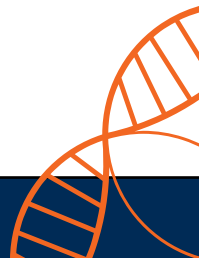


**Table 2A - Type of lactation calculation for milk yield**

Country	Year	Breed or population (Name)	TSM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Spain	2014	Colmenareña	No	Yes	No	No	Yes 120 days	No
Spain	2015	Colmenareña	No	Yes	No	No	Yes. 120 Days	No
Spain	2014	Lacaune	No	No	Yes	No	No	
Spain	2014	Latxa	Yes	Yes	Yes	Yes	Yes. 120	
Spain	2014	Manchega	Yes	Yes	No	Yes	Yes. 120 Days	No
Spain	2015	Manchega	Yes	Yes	No	Yes	Yes 120 days	No
Spain	2015	Merina de Grazalema	Yes	No	No	Yes, 157 days	No	No
Spain	2014	Merina de Grazalema	No	Yes	No	No	Yes, 162 days	No
Spain	2014	Rubia de El Molar	No	Yes	No	No	Yes 120 days	No
Spain	2015	Rubia de El Molar	No	Yes	No	No	Yes. 120 Days	

**NOTE**

- <sup>1</sup> See the definition of the terms on the ICAR website ([www.icar.org](http://www.icar.org)) in the part dedicated to the milk recording of sheep WG : “Recording guidelines”, Section 2.2.
- <sup>2</sup> TSM: total suckled and milked milk (case of milking after a suckling period).
- <sup>3</sup> TMM: total milked milk (case of milking after a suckling period).
- <sup>4</sup> TMY: total milk yield (case of milking from lambing, i.e. without a suckling period).



## Table 2B - Milk yield results

Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Croatia	2014	East Frisian	199	185	189	
Croatia	2014	Istrian Sheep	132	163	156	
Croatia	2014	Paska Sheep	76	105	102	
Czech Rep.	2014	All Breeds			255	
Czech Rep.	2015	All Breeds			277	
Germany	2014	Lacaune			353	The kg are the used unit
Germany	2015	Lacaune			372	The kg are the used unit
Germany	2014	Ostfriesisches Milchschaaf			261	The kg are the used unit
Germany	2015	Ostfriesisches Milchschaaf			249	The kg are the used unit
France	2015	Basco-Bearnaise	140 (107 days)	204 (159 days)	194 (151 days)	Litres are used as unit
France	2015	Corse	92 (127 days)	154 (197 days)	143 (184 days)	Litres are used as unit
France	2015	Lacaune	246 (152 days)	316 (176 days)	299 (170 days)	Litres are used as unit
France	2015	Manech Tet Noire	138 (126 days)	163 (151 days)	161 (149 days)	Litres are used as unit
France	2015	Manech Tete Rousse	184 (142 days)	220 (163 days)	215 (161 days)	Litres are used as unit
Italy	2014	Comisana	103	187	183	From day 30 from lambing to reference length
Italy	2014	Delle Langhe	104	158	148	From day 30 from lambing to reference length
Italy	2014	Massese	110	129	127	From day 30 from lambing to reference length
Italy	2014	Sarda	141	208	201	Yields from day 30 from lambing to reference length
Italy	2014	Valle del Belice	120	188	186	From day 30 from lambing to reference length

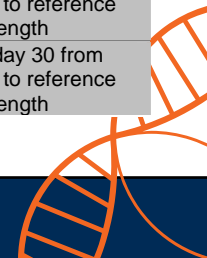


Table 2B - Milk yield results

Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Slovak Rep.	2014	East Friesian			247	
Slovak Republic	2015	East Friesian			239	
Slovak Rep.	2014	Hybrids (synthetic population Slovak Dairy Sheep)			164	
Slovak Rep.	2015	Hybrids (synthetic population Slovak Dairy Sheep)			162	
Slovak Rep.	2014	Improved Valachian			103	
Slovak Rep.	2015	Improved Valachian			111	
Slovak Rep.	2014	Lacaune			221	
Slovak Rep.	2015	Lacaune			227	
Slovak Rep.	2014	Tsigai			111	
Slovak Rep.	2015	Tsigai			118	
Slovak Rep.	2015	Valachian			119	
Slovenia	2014	Bovec			TSM=191 kg, TMM=134 kg, lactation length=204 days	
Slovenia	2015	Bovec			TSM=191 kg, TMM=139 kg, lactation length=203 days	

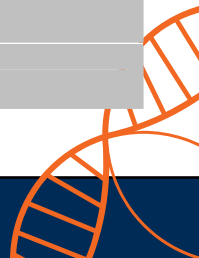
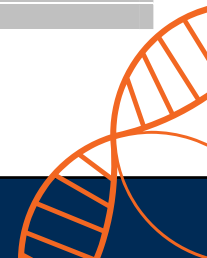


Table 2B - Milk yield results

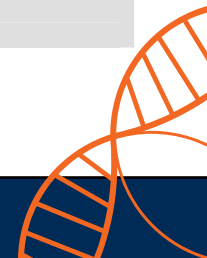
Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Slovenia	2014	Improved Bovec			TSMM=252 kg, TMM=204 kg, lactation length=212 days	
Slovenia	2015	Improved Bovec			TSMM=289 kg, TMM=244 kg, lactation length=230 days	
Slovenia	2014	Istrian Pramenka			TSMM=149 kg, TMM=95 kg, lactation length=192 days	
Slovenia	2015	Istrian Pramenka			TSMM=155 kg, TMM=99 kg, lactation length=196 days	
Spain	2014	Carranzana	153	160	170	
Spain	2014	Castellana	50	67	62	
Spain	2014	Churra	122	129	127	
Spain	2015	Churra	131	133	133	
Spain	2014	Colmenareña	77	99	95	
Spain	2015	Colmenareña	79	99	95	
Spain	2014	Lacaune	306	363	333	
Spain	2014	Latxa	148	195	173	
Spain	2014	Manchega	165	188	176	
Spain	2015	Manchega	200	225	215	Milk yield during the whole lactation period.
Spain	2015	Merina de Grazalema	102	125	122	
Spain	2014	Merina de Grazalema	109	131	123	
Spain	2014	Rubia de el Molar	57	65	64	
Spain	2015	Rubia de El Molar	54	65	64	

**NOTE**
<sup>1</sup> Yearling : 12-18 month-old

<sup>2</sup> Adults : >18 month-old


**Table 3 - Optional tests for milk composition**

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis	Notes
Croatia	2014	East Friesian	348	AT	Yes	Yes	Yes	Lactose	
Croatia	2015	East Friesian	364	AT	Yes	Yes	Yes	Lactose	
Croatia	2014	Istrian Sheep	2.154	AT	Yes	Yes	Yes	Lactose	
Croatia	2015	Istrian Sheep	1.357	AT	Yes	Yes	Yes	Lactose	
Croatia	2014	Paska Sheep	3.934	AT	Yes	Yes	Yes	Lactose	
Croatia	2015	Paska Sheep	4.388	AT	Yes	Yes	Yes	Lactose	
Czech Rep.	2015	All Breeds		AT	Yes	Yes	Yes	Lactose	
Czech Rep.	2015	All Breeds		AT	Yes	Yes	Yes	Lactose	
Germany	2014	Lacaune	150	A4, B4	Yes	Yes			
Germany	2015	Lacaune	217	A4, B4	Yes	Yes			
Germany	2014	Ostfriesisches Milchschaft	566	A4, B4, E4, AT, BT	Yes	Yes			
Germany	2015	Ostfriesisches Milchschaft	715	A4, B4, E4, AT, BT	Yes	Yes			
France	2015	Lacaune	Parities 1 & 2 (65.091 ewes)	Part-lactation sampling	Yes	Yes	Yes		
Italy	2014	Sarda	Primiparous ewes: 17.777	AC,AT	Yes, 5,6	Yes, 5,25			
Slovak Rep.	2014	East Friesian	Parity 1 to 3 (35 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2015	East Friesian	Parity 1 to 3 (23 ewes)	AC	Yes	Yes		Lactose	



**Table 3 - Optional tests for milk composition**

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis	Notes
Slovak Rep. <sup>1</sup>	2014	Hybrids	Parity 1 to 3 (1525 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep. <sup>1</sup>	2015	Hybrids	Parity 1 to 3 (1641 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2014	Improved Valachian	Parity 1 to 3 (3,565 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2015	Improved Valachian	Parity 1 to 3 (2,548 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2014	Lacaune	Parity 1 to 3 (969 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2015	Lacaune	Parity 1 to 3 (899 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2014	Tsigai	Parity 1 to 3 (3,154 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2015	Tsigai	Parity 1 to 3 (2,439 ewes)	AC	Yes	Yes		Lactose	
Slovak Rep.	2015	Valachian	Parity 1 to 3 (47 ewes)	AC	Yes	Yes		Lactose	
Slovenia	2014	Bovec	All ewes =1175	AT4	Yes, 6,4	Yes, 5,3			
Slovenia	2015	Bovec	All ewes = 1197	AT4	Yes, 6,4	Yes, 5,3			

<sup>1</sup> Synthetic population Slovak Dairy Sheep

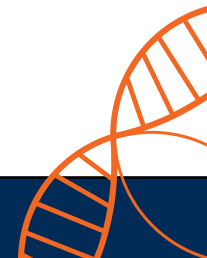
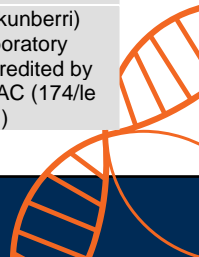


Table 3 - Optional tests for milk composition

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis	Notes
Slovenia	2014	Improved Bovec	All ewes = 431	AT4	Yes, 5,9	Yes, 5,3			
Slovenia	2014	Istrian Pramenka	All ewes = 291	AT4	Yes, 7,2	Yes, 5,7			
Slovenia	2015	Istrian Pramenka	All ewes = 266	AT4	Yes, 7,3	Yes, 5,70			
Spain	2014	Carranzana		AC	Yes	Yes	Yes	Lactose, Dry matter	(Lekunberri) Laboratory accredited by ENAC (174/le 381)
Spain	2014	Castellana		AT	Yes	Yes	Yes		
Spain	2014	Churra		AT	Yes, 7,06	Yes, 5,72	Yes, 995.000 cells/m	Lactose	
Spain	2015	Churra		AT	Yes, 7,01	Yes, 5,79	Yes	Lactose	
Spain	2014	Colmenareña		AT4	Yes, 6,8	Yes, 5,3	Yes	Dry matter, lactose	
Spain	2015	Colmenareña		AT4	Yes, 6,8	Yes, 5,3	Yes	Dry matter, lactose	
Spain	2014	Lacaune		A4	Yes, 7,04	Yes, 5,56	Yes		
Spain	2014	Latxa		AC	Yes, 6,23	Yes, 5,17	Yes	Lactose, Dry matter	(Lekunberri) Laboratory accredited by ENAC (174/le 381)



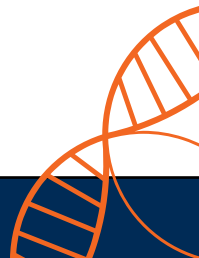


**Table 3 - Optional tests for milk composition**

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis	Notes
Spain	2014	Manchega		AT	Yes, 7,3	Yes, 5,5	Yes	Dry matter	
Spain	2015	Manchega		AT	Yes, 7,7	Yes, 5,6	Yes	Dry matter	
Spain	2015	Merina de Grazaema		AT4	Yes, 8,12	Yes, 6,39	Yes	Dry matter	
Spain	2014	Merino de Grazaema		AT4	Yes. 7,57	Yes. 6	Yes. 52.4920 cells	Dry matter (19,15),	
Spain	2014	Rubia de el Molar		AT4	Yes, 6,4	Yes, 5,3	Yes	Dry matter, lactose	
Spain	2015	Rubia de El Molar		AT4	Yes. 6,4	Yes. 5,3	Yes	Dry matter, lactose	

**NOTE**

<sup>1</sup> A4, A5, A6, AT, AC , E4, EC, ET (see appendix A of the ICAR regulations for milk recording in sheep). If other method used, please describe it.



**Table 4 - Recording of non-milking traits**

Country	Year	Breed or population	Reproductive traits, weights and growths, udder score, longevity		
			Traits	On-farm recording	Breeding evaluation
Croatia	2014	East Frisian	Reproductive traits and birth weight	Yes	No
Croatia	2015	East Frisian	Reproductive traits and birth weight	Yes	No
Croatia	2014	Istrian Sheep	Reproductive traits and birth weight	Yes	No
Croatia	2015	Istrian Sheep	Reproductive traits and birth weight	Yes	No
Croatia	2014	Paska Sheep	Reproductive traits and birth weight	Yes	No
Czech Rep.	2014	All Breeds	Weight, reproductive traits	Yes	Yes
Czech Rep.	2015	All Breeds	Weight, reproductive traits	Yes	Yes
France	2015	All Breeds	Reproductive traits (all); udder scoring (except Corse); resistance to gastrointestinal strongyles (Pyrenean breeds only)	Yes	Yes
Italy	2014	All breeds	Udder score, morphological evaluation	Yes	No
Slovak Rep.	2014	All Breeds	Reproductive traits, weight	Yes	Yes
Slovenia	2014	Bovec	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovenia	2015	Bovec	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovenia	2014	Improved Bovec	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovenia	2015	Improved Bovec	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovenia	2014	Istrian Pramenka	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovenia	2015	Istrian Pramenka	Offspring birth weight, offspring weaning weight, litter size	Yes	
Slovak Rep.	2015	All Breeds	Reproductive traits, weight	Yes	Yes

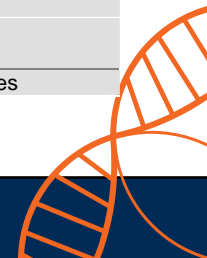


Table 4 - Recording of non-milking traits

Country	Year	Breed or population	Reproductive traits, weights and growths, udder score, longevity		
			Traits	On-farm recording	
Spain	2014	Carranzana	Weights and growths, longevity (since 1982), prolificity (since 1982), mortality (since 1982)	Yes	No
Spain	2014	Castellana	Milk production	Yes	Yes
Spain	2014	Churra	Udder score	Yes	Yes
Spain	2015	Churra	Udder Score	Yes	Yes
Spain	2014	Colmenareña	Reproductive traits, udder score, Weights and growths, longevity	Yes (Reproductive traits)	No
Spain	2015	Colmenareña	Udder Score, weights and growths, longevity and reproductive traits	Yes (Reproductive traits)	No
Spain	2014	Lacaune	Udder score	Yes	No
Spain	2014	Latxa	Weights and growths, Udder score (since 2001), longevity (since 1982), prolificity (since 1982), mortality (since 1982)	Yes (All)	Yes (Udder score)
Spain	2014	Manchega	Udder score (since 2002, 28137 animals)	Yes	Yes
Spain	2015	Manchega	Udder Score 21.338	Yes	Yes
Spain	2015	Merina de Grazalema	Scrapie resistance	Yes	No
Spain	2014	Merino de Grazalema	Scrapie resistance	Yes	No
Spain	2014	Rubia de El Molar	Reproductive traits, udder score, Weights and growths, longevity	Yes (Reproductive traits)	No
Spain	2015	Rubia de El Molar	Udder Score, weights and growths, longevity and reproductive traits	Yes (Reproductive traits)	No

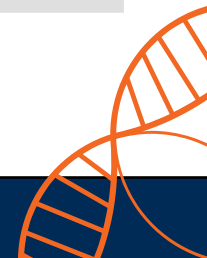
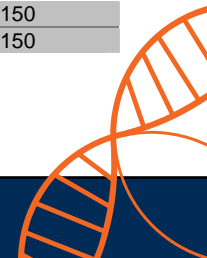


Table 5 - Milk recording equipment used in case of machine milking

Country	Year	Breed or population (Name)	Indicate jars/meter	Name of the manufacturer	Measurement (weight/volume)	Approximate number in use
Croatia	2014	East Frisian	Jars	Cartel Germany	Volume, Sampler	6
Croatia	2015	East Frisian	Jars	Cartel Germany	Volume, Sampler	6
Croatia	2014	Istrian Sheep	Jars	Cartel Germany	Volume, Sampler	13
Croatia	2015	Istrian Sheep	Jars	Cartel Germany	Volume, Sampler	16
Croatia	2014	Paska Sheep	Jars	Cartel Germany	Volume, Sampler	15
Croatia	2015	Paska Sheep	Jars	Cartel Germany	Volume, Sampler	20
Czech Rep.	2015	All Breeds		Tru-Test	TRU-TEST MINI	
France	2015	All breeds	Jars only	Etablissement Gely	Volume. Sampler	3.000
Italy	2014	All breeds	Mibo-Girotech; Royal; - Volume; Sampler,	Tru-Test Mod. Hi ; Waikato Mk5 4,5 Liters; Afifree; Mm25- 27	Afifree - MM25-27 Weight; Waikato Volume; All have sampler	
Slovak Rep.	2014	All breeds	Fisher Slovakia - Volume, 21	Berango, Milkovis	Volume, sampler no	Berango 189, Milkovis 143
Slovak Rep.	2015	All Breeds	Fisher Slovakia - Volume	Berango, Milkovis	Volume, sampler no	Berango 167, Milkovis 143
Slovenia	2014	Bovec			Weight	
Slovenia	2015	Bovec			Weight	
Slovenia	2014	Improved Bovec			Weight	
Slovenia	2015	Improved Bovec			Weight	
Slovenia	2014	Istrian Pramenka			Weight	
Slovenia	2015	Istrian Pramenka			Weight	
Spain	2014	Carranzana	Meter	Westfalia	Volume	30
Spain	2014	Castellana	Meter	Esneder (Berango)	Volume Sampler	120
Spain	2014	Churra	Meter	Berango	Volume	150
Spain	2015	Churra	Meters	Berango	Volume Sampler	150



**Table 5 - Milk recording equipment used in case of machine milking**

Country	Year	Breed or population (Name)	Indicate jars/meter	Name of the manufacturer	Measurement (weight/volume)	Approximate number in use
Spain	2014	Colmenareña	Meters	Alfa Laval/Schneder	Weight/volume	24
Spain	2015	Colmenareña	Meters	Alfa Laval/Schneder	Weight/volume	24
Spain	2014	Lacaune	Meters	Berango, TruTest, Delaval, Gea, Afiquim	Weight sampler	320
Spain	2014	Latxa	Meter	Westfalia	Volume	220
Spain	2014	Manchega	Meters	DeLaval, Westfalia, Flaco	Volume sampler. YES	900
Spain	2015	Manchega	Meters	DeLaval, Westfalia, Flaco	Volume Sampler	950

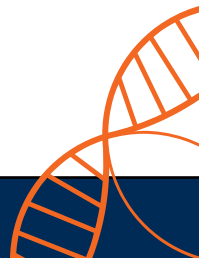


Table 6 - Breeding programme using artificial insemination

Country	Year	Breed or population	Fresh semen	Frozen semen	Selection criteria	Progeny test	
						AI progeny-tested rams per year	Number of AI per progeny-tested rams
Croatia <sup>1</sup>							
France	2015	Basco-Bearnaise	14.802	No	Milk Yield, Fat & Protein content (100%)	44	130
France	2015	Corse	6.633	No	Milk Yield	20	130
France	2015	Lacaune	407.787	No	Milk yield, fat & protein content (50%) ; Udder morphology (3 scores) (2)	290 (after genomic)	120
France	2015	Manech Tete Noire	11.063	No	Milk yield, fat & protein content (100%)	29	130
France	2015	Manech Tete Rousse	61.458	No	Milk yield, fat & protein content (100%)	172	120
Italy	2014	Sarda	6.500		Milk	15 at least	
Slovenia	2014	All recorded breeds					AI is not in use
Slovenia	2015	All recorded breeds					AI is not in use
Spain	2014	Carranzana	185	0	Morphology	3	120
Spain	2014	Castellana	290		Milk production	1	150

<sup>1</sup> In Croatia there is no AI service

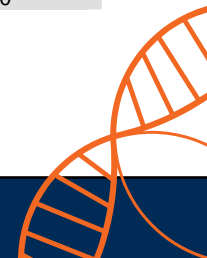


Table 6 - Breeding programme using artificial insemination

Country	Year	Breed or population	Fresh semen	Frozen semen	Selection criteria	Progeny test	
						AI progeny-tested rams per year	Number of AI per progeny-tested rams
Spain	2014	Churra	7.455	769	Morphology, Milk production and milk composition	35	170
Spain	2015	Churra	6.341	440	Milk production and morphology of goats	28	170
Spain	2014	Colmenareña					
Spain	2015	Colmenareña					
Spain	2014	Lacaune	8.000	230	Milk production	21	>150
Spain	2014	Latxa	21.236	0	Morphology, Milk composition and Udder score	83	120

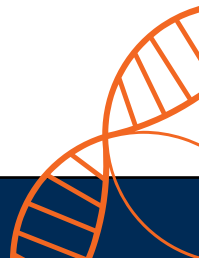


Table 7 - Molecular information

Country	Year	Breed or population	Type of genotyping <sup>1</sup>	Number of analysis, Number of flocks involved	Use in experimental program	Effective use in selection program	Notes
Croatia <sup>a</sup>	2014	Istrian Sheep					
Croatia <sup>a</sup>	2015	Istrian Sheep					
Croatia <sup>a</sup>	2014	Paska Sheep					
Croatia <sup>a</sup>	2015	Paska Sheep					
Czech Rep.	2014	All breeds	PrP			Yes	
Czech Rep.	2015	All Breeds	PrP			Yes	
France	2015	Basco-Bearnaise	PrP			1.502	
France	2015	Corse	PrP			2.130	
France	2015	Corse	OvineBeadChip 54k Illumina			529	
France	2015	Lacaune	Prp			5.833	
France	2015	Lacaune	OvineBeadChip 54k Illumina			1.850	
France	2015	Manech Tete Noire	PrP			1.128	
France	2015	Manech Tete Rousse	PrP			2.758	
Slovak Rep.	2014	All breeds	PrP genotyping	1.434 analysis		Yes	
Slovak Rep.	2015	All breeds	PrP genotyping	2.427 analysis		Yes	

<sup>a</sup> Samples have been collected but none was analyzed

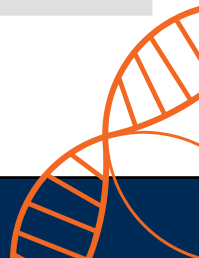




Table 7 - Molecular information

Country	Year	Breed or population	Type of genotyping <sup>1</sup>	Number of analysis, Number of flocks involved	Use in experimental program	Effective use in selection program	Notes
Slovenia	2014	All recorded breeds	PRP genotyping			Yes	
Slovenia	2015	All recorded breeds	PRP genotyping			Yes	
Spain	2014	Carranzana	Filiation Test (20 markers), PNRP	Filiation test: 62 analysis in 3 flocks. PNRP 57 analysis in 11 floc	No	Yes	
Spain	2014	Castellana	PNRP	2.108 analysis in 9 flocks	No	Yes	
Spain	2014	Churra	Filiation test, PNRP	Filiation test: 509 analysis in 26 flocks. PNRP 661 analysis in 94 f	No	Yes	
Spain	2015	Churra	Filiation Test, PNRP	Filiation test: 601 analysis in 38 flocks. PNRP 450 analysis in 50 f	No	Yes	
Spain	2014	Colmenareña	Filiation Test	413 analysis in 20 flocks	No	No	
Spain	2015	Colmenareña	Filiation Test	Filiation test: 1.136 analysis in 21 flocks.	No	No	
Spain	2014	Lacaune	Filiation Test, PNRP	Filiation test: 7.080 analysis in 21 flocks. PNRP: 3.600 analysis in 3	No	Yes	
Spain	2014	Latxa	Filiation Test (20 markers), PNRP	Filiation test: 3.914 analysis in 64 flocks. PNRP: 1103 analysis in 1	No	Yes	
Spain	2014	Manchega	Filiation Test (19-21 markers), PNRP	Filiation test: 29.516 analysis in 117 flocks. PNRP: 4067 analysis in	No	Yes	

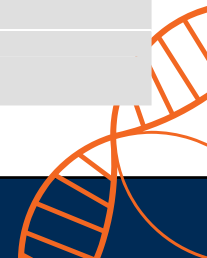
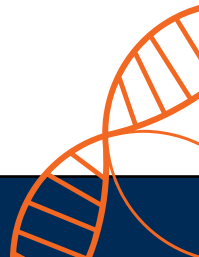


Table 7 - Molecular information

Country	Year	Breed or population	Type of genotyping <sup>1</sup>	Number of analysis, Number of flocks involved	Use in experimental program	Effective use in selection program	Notes
Spain	2015	Manchega	Filiation Test (19-21 markers), PNRP	Filiation test: 33.342 analysis in 124 flocks. PNRP: 2.706 analysis in	No	Yes	
Spain	2015	Merina de Grazalema	Filiation Test (11 markers), PNRP	Filiation test: 770 analysis in 31 flocks. PNRP 31 analysis in 17 fl	No	Only by culling vrq rams (PNRP), filiation test Yes	
Spain	2014	Merino de Grazalema	Filiation Test (11 markers), PNRP	Filiation test: 715 analysis in 22 flocks. PNRP: 46 analysis in 25 f	No	Only by culling vrq rams (PNRP), filiation test (Yes)	
Spain	2014	Rubia de el Molar	Filiation Test	193 analysis in 8 flocks	No	Yes	
Spain	2015	Rubia de El Molar	Filiation Test	Filiation test: 61 analysis in 7 flocks.	No	Yes	

**NOTE**

<sup>1</sup> Every kind of genotyping:  
 Filiation tests (precise number of markers),  
 PrP genotyping,  
 Protein (precise :  $\alpha$ s1casein,  $\beta$  lactoglobulin ... ),  
 Markers for QTL detection program,  
 Markers for MAS,  
 Other (precise).





## Goat Survey (Years 2014 and 2015)

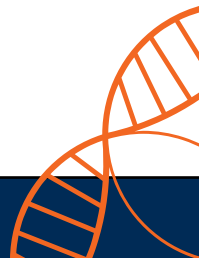


Table 1A - Milk recording and management of the lactation

## GOAT SURVEY

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Canada	2014	All breeds			36	7.226					
Croatia	2014	Alpine	300	15	61	3.544	2	27			
Croatia	2015	Alpine	300	15.000	59	3.233	2	27			
Croatia	2014	Saanen	50	3	13	480	2	45			
Croatia	2015	Saanen	50	3.000	16	594	2	40			
Czech Rep.	2014	All Breeds				4.466					
Czech Rep.	2015	All Breeds				5.144					
France	2014	Alpine	1.242	171.366	1.221	155.821					
France	2015	Alpine	1.198	168.611	1.176	150.072					
France	2014	Poitevine	34	607	29	509					
France	2015	Poitevine	33	563	30	483					
France	2014	Saanen	963	125.568	944	110.645					
France	2015	Saanen	896	120.215	871	105.088					
Italy	2014	Argentata dell'Etna			33	1.120	2	40			
Italy	2014	Aspromontana			130	13.018	2	40			
Italy	2014	Camosciata delle Alpi			268	11.486	2	40			
Italy	2014	Garganica			54	2.000	2	40			
Italy	2014	Maltese			37	1.618	2	40			
Italy	2014	Messinese			41	3.750	2	40			

Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Italy	2014	Murciana			12	1.596	2	40			
Italy	2014	Nicastrese			27	1.901	2	40			
Italy	2014	Saanen			225	12.023	2	40			
Italy	2014	Sarda			131	13.590	2	40			
Latvia	2014	All breeds			19	1.100	1				
Serbia <sup>1</sup>	2014	Alpine	1.923	2.665	946	946	Intensive	45	100	946	946
Serbia <sup>1</sup>	2015	Alpine	2.554	3.378	1.409	1.409	Intensive	45	100	1.409	1.409
Serbia <sup>1</sup>	2014	Saanen	359	468	293		Intensive	0	100	293	293
Serbia <sup>1</sup>	2015	Saanen	246	442	203		Intensive	0	100	203	203
Slovak Republic	2015	Anglo Nubian			5	12	2	40	0		
Slovak Rep	2015	Brown Shorthaired Goat			1	25	2	40	100		
Slovak Rep	2015	Saanen			1	4	2	40	0		

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

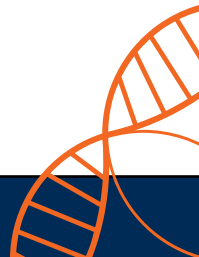


Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Slovak Rep	2014	White Shorthaired Goat			6	456	2	40	57		
Slovak Rep	2015	White Shorthaired Goat			5	493	2	40	60		
Spain	2014	Cabra Malagueña	2.500	200.000	46	18.400	1) Milking from kidding (80%) 2) Milking after suckling period (20%)	45 days	100	0	0
Spain	2014	Florida			69	24.249	1) Milking from kidding		100		
Spain	2015	Florida			42	12.758	1) Milking from kidding		100		

Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Spain	2014	Guadarrama	28	8.857	28	6.262	2) Milking after a suckling period	30	100		
Spain	2015	Guadarrama	28	9.186	28	5.573	2) Milking after a suckling period	30	100		
Spain	2014	Majorera			11	708	2) Milking after suckling period	40			
Spain	2015	Majorera			12	602	2) Milking after a suckling period	40			
Spain	2014	Murciano-Granadina			187	99.335	1) Milking from kidding		100		

Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Spain	2014	Payoya	40	9.000	17	4.993	2) Milking after a suckling period	45	95		
Spain	2015	Payoya	40	9.000	21	6.384	2) Milking after a suckling period	45			
Spain	2015	Verata	37	9.907	12	4.564	2) Milking after a suckling period	38	100		
Switzerland	2014	Anglo Nubian		280		120	1 + 2	75			
Switzerland	2015	Anglo Nubian	55	280	25	120	1 + 2	75			
Switzerland	2014	Appenzell		3.800		1.640	1 + 2	75			
Switzerland	2015	Appenzell	310	2.960	135	1.270	1 + 2	75			
Switzerland	2014	Grisons striped		1.400		2.600	1 + 2	75			
Switzerland	2015	Grisons striped	795	5.180	340	2.220	1 + 2	75			



Table 1A - Milk recording and management of the lactation

Country	Year	Breed or population (Name)	Number of flocks in the population	Number of ewes in the population	Number of flocks in milk recording	Number of ewes in milk recording <sup>1</sup>	Recorded flocks milking after suckling period <sup>2</sup>	If system (2). average length of the suckling period (in days)	% of official recorded flocks in machine milking	Number of flocks in D recording	Number of ewes in D recording
Switzerland	2014	Nera Verzasca		2.600		1.090	1 + 2	75			
Switzerland	2015	Nera Verzasca	200	1.820	80	780	1 + 2	75			
Switzerland	2014	Peacock		3.000		1.270	1 + 2	75			
Switzerland	2015	Peacock	420	2.470	180	1.060	1 + 2	75			
Switzerland	2014	Saanen		19.000		8.150	1 + 2	75			
Switzerland	2015	Saanen	1.700	13.100	730	5.612	1 + 2	75			
Switzerland	2014	Swiss Alpine		22.250		9.540	1 + 2	75			
Switzerland	2015	Swiss Alpine	1.785	17.885	770	7.665	1 + 2	75			
Switzerland	2014	Toggenbourg		10.100		4.320	1 + 2	75			
Switzerland	2015	Toggenbourg	1.160	7.370	500	3.160	1 + 2	75			

**NOTE**

<sup>1</sup> Inventory at lambing in case of one lambing per year or inventory at a fixed date in the other cases

<sup>2</sup> Answer (1) or (2), if only one system is used (per breed or in the country) as regards lactation ; or percentage of ewes in system (1) and system (2), if used simultaneously.

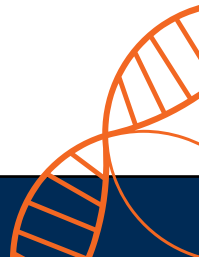


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Croatia	2014	Alpine	B4=20%	AT=80%		
Croatia	2015	Alpine	B4=22%	AT=78%		
Croatia	2014	Saanen		AT=100%		
Croatia	2015	Saanen	B4=36%	AT=64%		
Czech Rep.	2014	All Breeds				
Czech Rep.	2015	All Breeds				
Italy	2014	Argentata dell'Etna		AT 100%		
Italy	2014	Aspromontana		AT 100%		
Italy	2014	Camosciata delle Alpi		AT 100%		
Italy	2014	Garganica		AT 100%		
Italy	2014	Maltese		AT 100%		
Italy	2014	Messinese		AT 100%		
Italy	2014	Murciana		AT 100%		
Italy	2014	Nicastrese		AT 100%		
Italy	2014	Saanen		AT 100%		
Italy	2014	Sarda		AT 100%		
Latvia	2014	All breeds	100			
Serbia <sup>1</sup>	2014	Alpine		AT4		
Serbia <sup>1</sup>	2015	Alpine		AT4		
Serbia <sup>1</sup>	2014	Saanen		AT4		
Serbia <sup>1</sup>	2015	Saanen		AT4		
Slovak Rep.	2015	Anglo Nubian			AC=100%	

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

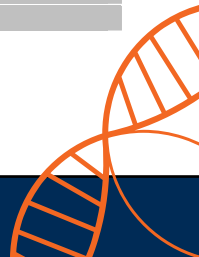


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Slovak Rep.	2015	Brown Shorthaired Goat			AC=100%	
Slovak Rep.	2015	Saanen			AC=100%	
Slovak Rep.	2014	White Shorthaired Goat			AC=100%	
Slovak Rep.	2015	White Shorthaired Goat			AC=100%	
Spain	2014	Cabra Malagueña	A4- 50%, A6- 50%			
Spain	2014	Florida	A4= 72,5 %. A6= 27,5 %.	AT=85%		
Spain	2015	Florida	A4 (7,14%), A6 (7,14%)	AT4=61,9% AT6=23,81%		
Spain	2014	Guadarrama	A6= 90 %	AT6=10%		
Spain	2015	Guadarrama	A6= 90 %	AT6=10%		
Spain	2014	Majorera	A6= 100%			
Spain	2015	Majorera	A6= 100%			
Spain	2014	Murciano-Granadina	A4= 63 %. A6= 37 %			
Spain	2014	Payoya	A4= 42 %, A6= 31 %.	AT4=26%, AT6=1%		
Spain	2015	Payoya	A4= 63 %. A6= 37 %.	AT6=37%		
Spain	2015	Verata	20%	80%		
Switzerland	2014	Anglo Nubian	A4	AT		
Switzerland	2015	Anglo Nubian	A4	AT		
Switzerland	2014	Appenzell	A4	AT		
Switzerland	2015	Appenzell	A4	AT		

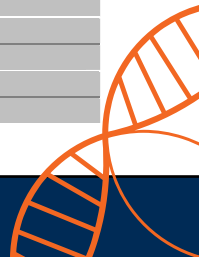


Table 1B - Methods of milk recording

Country	Year	Breed or population (Name)	Percentage of A4, A5, A6, B4, B5, B6, C4, C5, C6 (precise if necessary) <sup>1</sup>	Percentage of AT, BT, CT (precise if necessary) <sup>1</sup>	Percentage of AC, BC, CC (precise if necessary) <sup>1</sup>	Percentage of E4, E5, E6, ET, EC (precise if necessary) <sup>1</sup>
Switzerland	2014	Grisons striped	A4	AT		
Switzerland	2015	Grisons striped	A4	AT		
Switzerland	2014	Nera Verzasca	A4	AT		
Switzerland	2015	Nera Verzasca	A4	AT		
Switzerland	2014	Peacock	A4	AT		
Switzerland	2015	Peacock	A4	AT		
Switzerland	2014	Saanen	A4	AT		
Switzerland	2015	Saanen	A4	AT		
Switzerland	2014	Swiss Alpine	A4	AT		
Switzerland	2015	Swiss Alpine	A4	AT		
Switzerland	2014	Toggenbourg	A4	AT		
Switzerland	2015	Toggenbourg	A4	AT		

**NOTE**

<sup>1</sup> See the definition of official milk recording method on the ICAR website ([www.icar.org](http://www.icar.org)) in the part dedicated to the milk recording of sheep WG : "Recording guidelines", Section 2.2

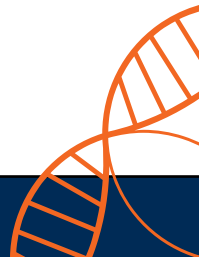


Table 2A - Type of lactation calculation for milk yield

Country	Year	Breed or population (Name)	TSM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Croatia	2014	Alpine	Yes	Yes	No	No	No	No
Croatia	2015	Alpine	Yes	Yes	No	No	No	No
Croatia	2014	Saanen	Yes	Yes	No	No	No	No
Croatia	2015	Saanen	Yes	Yes	No	No	No	No
Czech Rep.	2014	All Breeds						
Czech Rep.	2015	All Breeds						
France	2014	Alpine	No	No	Yes	No		
France	2015	Alpine	No	No	Yes	No		
France	2014	Poitevine	No	No	Yes	No		
France	2015	Poitevine	No	No	Yes	No		
France	2014	Saanen	No	No	Yes	No		
France	2015	Saanen	No	No	Yes	No		
Italy	2014	Aspromontana	Yes	Yes	No	Yes	Yes	No
Italy	2014	Camosciata delle Alpi	Yes	Yes	No	Yes	Yes	No
Italy	2014	Garganica	Yes	Yes	No	Yes	Yes	No
Italy	2014	Maltese	Yes	Yes	No	Yes	Yes	No
Italy	2014	Messinese	Yes	Yes	No	Yes	Yes	No
Italy	2014	Messinese	Yes	Yes	No	Yes	Yes	No
Italy	2014	Murciana	Yes	Yes	No	Yes	Yes	No
Italy	2014	Saanen	Yes	Yes	No	Yes	Yes	No
Italy	2014	Sarda	Yes	Yes	No	Yes	Yes	No

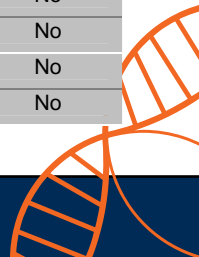


Table 2A - Type of lactation calculation for milk yield

Country	Year	Breed or population (Name)	TSMM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Latvia	2014	All breeds	No	No	Yes			Yes. 305
Serbia <sup>1</sup>	2014	Alpine	Yes	Yes	Yes	Yes	216	261
Serbia <sup>1</sup>	2015	Alpine	Yes	Yes	Yes	Yes	216	216
Serbia <sup>1</sup>	2015	Saanen	Yes	No	Yes		286	286
Serbia <sup>1</sup>	2015	Saanen	Yes	No	Yes		277	277
Slovak Rep.	2015	Anglo Nubian	No	Yes	No	No	Yes. 240	
Slovak Rep.	2015	Brown Shorthaired Goat	No	Yes	No	No	Yes. 240	
Slovak Rep.	2015	Saanen	No	Yes	No	No	Yes. 240	
Slovak Rep.	2014	White Shorthaired Goat	No	Yes	No	No	Yes. 240	
Slovak Rep.	2015	White Shorthaired Goat	No	Yes	No	No	Yes. 240	
Spain	2014	Cabra Malagueña	No	Yes	Yes	No	Yes	Yes
Spain	2014	Florida	No	No	Yes	No	No	Yes
Spain	2015	Florida	No	No	Yes			
Spain	2014	Guadarrama	No	Yes	No	No	Yes. 210 d	No
Spain	2015	Guadarrama	No	Yes	No	No	Yes. 210 d	
Spain	2014	Majorera	Yes	No	No	Yes. 210 Days	No	No
Spain	2015	Majorera	Yes	No	No	Yes. 210 Days	No	No

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

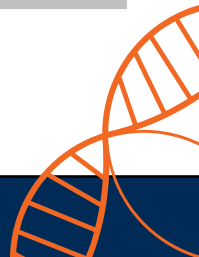


Table 2A - Type of lactation calculation for milk yield

Country	Year	Breed or population (Name)	TSMM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSMM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Spain	2014	Murciano-Granadina	No	No	Yes	No	No	1st calve= 150 days. 2nd or more calves= 210 or 240 days
Spain	2014	Payoya	No	Yes	No	No	Yes. Yearlings: 150 days. Adults: 210 days.	No
Spain	2015	Payoya	No	Yes	No	No	Yes. 150 Days (yearlings), 210 Days (Adults)	No
Spain	2015	Verata	Yes	No	No	Yes	No	No
Switzerland	2014	Anglo Nubian	No	No	Yes			220 days
Switzerland	2015	Anglo Nubian	No	No	Yes			220 days
Switzerland	2014	Appenzell	No	No	Yes			220 days
Switzerland	2015	Appenzell	No	No	Yes			220 days
Switzerland	2014	Grisons striped	No	No	Yes			180 days
Switzerland	2015	Grisons striped	No	No	Yes			180 days
Switzerland	2014	Nera Verzasca	No	No	Yes			120 days
Switzerland	2015	Nera Verzasca	No	No	Yes			120 days

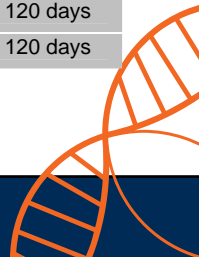


Table 2A - Type of lactation calculation for milk yield

Country	Year	Breed or population (Name)	TSM <sup>2</sup>	TMM <sup>3</sup>	TMY <sup>4</sup>	TSM <sup>1</sup>	TMM <sup>2</sup>	TMY <sup>3</sup>
Switzerland	2014	Peacock	No	No	Yes			180 days
Switzerland	2015	Peacock	No	No	Yes			180 days
Switzerland	2014	Saanen	No	No	Yes			220 days
Switzerland	2015	Saanen	No	No	Yes			220 days
Switzerland	2014	Swiss Alpine	No	No	Yes			220 days
Switzerland	2015	Swiss Alpine	No	No	Yes			220 days
Switzerland	2014	Toggenbourg	No	No	Yes			220 days
Switzerland	2015	Toggenbourg	No	No	Yes			220 days

**NOTE**

- <sup>1</sup> See the definition of the terms on the ICAR website ([www.icar.org](http://www.icar.org)) in the part dedicated to the milk recording of sheep WG : "Recording guidelines", Section 2.2.
- <sup>2</sup> TSM: total suckled and milked milk (case of milking after a suckling period).
- <sup>3</sup> TMM: total milked milk (case of milking after a suckling period).
- <sup>4</sup> TMY: total milk yield (case of milking from lambing, i.e. without a suckling period).

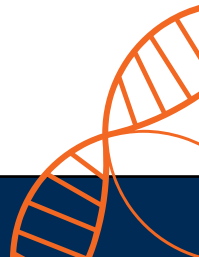




Table 2B - Milk yield results

Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Croatia	2014	Alpine	460	578	554	
Croatia	2014	Saanen	472	564	545	
Czech Rep.	2014	All Breeds			746	
Czech Rep.	2015	All Breeds			844	
France	2014	Alpine	816 kg (302 days)	926 kg (290 days)	891 kg (294 days)	Units expressed in kg
France	2015	Alpine	828 (303 days)	949 (293 days)	909 (296 days)	Units expressed in kg
France	2014	Poitevine	397 kg (255 days)	557 kg (259 days)	520 kg (258 days)	Units expressed in Kg
France	2015	Poitevine	419 (261 days)	552 (258 days)	520 (259 days)	Units expressed in kg
France	2014	Saanen	947 kg (327 days)	945 kg (296 days)	945 kg (306 days)	Units expressed in Kg
France	2015	Saanen	958 (331 days)	953 (297 days)	954 (308 days)	Units expressed in kg
Italy	2014	Argentata dell'Etna	117	178	174	
Italy	2014	Aspromontana	177	192	191	
Italy	2014	Camosciata delle Alpi	338	549	508	
Italy	2014	Garganica	108	157	156	
Italy	2014	Maltese	202	326	309	
Italy	2014	Messinese	133	188	187	
Italy	2014	Murciana	302	404	383	
Italy	2014	Nicastrese	134	121	122	
Italy	2014	Saanen	381	562	522	
Italy	2014	Sarda	175	209	206	
Serbia <sup>1</sup>	2014	Alpine	742	1.923	2.665	
Serbia <sup>1</sup>	2015	Alpine	824	2.554	3.378	
Serbia <sup>1</sup>	2014	Saanen	109	359	468	
Serbia <sup>1</sup>	2015	Saanen	196	246	442	

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

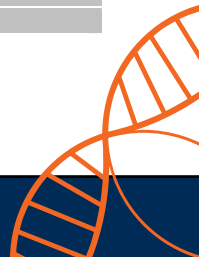


Table 2B - Milk yield results

Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Slovak Rep.	2015	Anglo Nubian			876	
Slovak Rep.	2015	Brown Shorthaired Goat			698	
Slovak Republic	2015	Saanen			601	
Slovak Republic	2014	White Shorthaired Goat			530	
Slovak Republic	2015	White Shorthaired Goat			517	
Spain	2014	Cabra Malagueña	360	510	480	Units expressed in kg
Spain	2014	Florida	444	654	586	
Spain	2015	Florida	495	682	614	
Spain	2014	Guadarrama	357	400	378	
Spain	2015	Guadarrama	303	484	393	
Spain	2014	Majorera	270	436	353	
Spain	2015	Majorera	271	441	356	
Spain	2014	Murciano-Granadina	274	484	416	Units expressed in kg
Spain	2014	Payoya	303 kg (258 days)	431 kg (284 days)	367	Units expressed in kg
Spain	2015	Payoya	274 (236 days)	452 (278 days)	405 (267 days)	
Spain	2015	Verata	126	205	168,86	
Switzerland	2014	Anglo Nubian	345 kg (250 days)	509 kg (243 days)	479 kg (246 days)	
Switzerland	2015	Anglo Nubian	367 kg (262 days)	476 kg (265 days)	469 kg (264 days)	
Switzerland	2014	Appenzell	488 kg (255 days)	742 kg (274 days)	695 kg (268 days)	
Switzerland	2015	Appenzell	476 kg (267 days)	735 kg (284 days)	692 kg (278 days)	
Switzerland	2014	Grisons striped	379 kg (234 days)	578 kg (245 days)	546 kg (242 days)	
Switzerland	2015	Grisons striped	387 kg (247 days)	557 kg (254 days)	527 kg (252 days)	
Switzerland	2014	Nera Verzasca	336 kg (214 days)	382 kg (178 days)	381 kg (190 days)	
Switzerland	2015	Nera Verzasca	317 kg (219 days)	396 kg (188 days)	393 kg (198 days)	

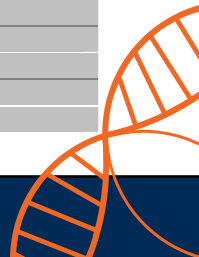


Table 2B - Milk yield results

Country	Year	Breed or population (Name)	Yearlings <sup>1</sup>	Adults <sup>2</sup>	All ewes	Notes
Switzerland	2014	Peacock	362 kg (239 days)	536 kg (242 days)	510 kg (241 days)	
Switzerland	2015	Peacock	345 kg (231 days)	497 kg (236 days)	475 kg (235 days)	
Switzerland	2014	Saanen	616 kg (268 days)	851 kg (278 days)	799 kg (275 days)	
Switzerland	2015	Saanen	610 kg (275 days)	855 kg (283 days)	803 kg (281 days)	
Switzerland	2014	Swiss Alpine	556 kg (262 days)	785 kg (273 days)	742 kg (269 days)	
Switzerland	2015	Swiss Alpine	561 kg (269 days)	759 kg (276 days)	719 kg (274 days)	
Switzerland	2014	Toggenbourg	552 kg (270 days)	758 kg (278 days)	710 kg (275 days)	
Switzerland	2015	Toggenbourg	521 kg (265 days)	757 kg (281 days)	704 kg (275 days)	

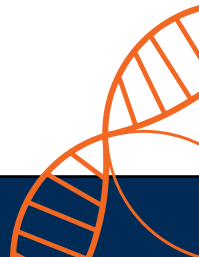
**NOTE**<sup>1</sup> Yearling : 12-18 month-old<sup>2</sup> Adults : >18 month-old

Table 3 - Optional tests for milk composition

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis
Croatia	2014	Alpine	3.544	AT, A4	Yes	Yes	Yes	Lactose
Croatia	2015	Alpine	3.233	AT, B4	Yes	Yes	Yes	Lactose
Croatia	2014	Saanen	480	AT	Yes	Yes	Yes	Lactose
Croatia	2015	Saanen	480	AT,B4	Yes	Yes	Yes	Lactose
Czech Rep.	2014	All Breeds			Yes	Yes	Yes	
Czech Rep.	2015	All Breeds			Yes	Yes	Yes	
France	2014	All breeds	All	MIR	Yes	Yes		
France	2015	All breeds	All	MIR	Yes	Yes	Yes	
Italy	2014	Camosciata delle Alpi	All (8.956 lactations)	AT	Yes 3.53	Yes 3.37		
Italy	2014	Maltese	Primiparous (124)	AT	Yes 3.88	Yes 3.52		
Italy	2014	Saanen	All goats (9.047 lactations)	AT	Yes 3.38	Yes 3.30		
Latvia	2014	All breeds		A4	Yes	Yes		
Serbia	2014	Alpine	1923	FTIR	FTIR	FTIR	Flow citometry	No
Serbia	2015	Alpine	2554	FTIR	FTIR	FTIR	Flow citometry	
Serbia	2014	Saanen		FTIR	FTIR	FTIR	Flow citometry	No
Serbia	2015	Saanen	246	FTIR	FTIR	FTIR	Flow citometry	
Slovak Rep.	2015	Anglo Nubian	Parity 1 to 3, (12 goats)	AC	Yes	Yes		Lactose

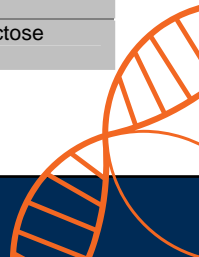


Table 3 - Optional tests for milk composition

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis
Slovak Rep.	2015	Brown Shorthaired Goat	Parity 1 to 3, (25 goats)	AC	Yes	Yes		Lactose
Slovak Rep.	2015	Saanen	Parity 1 to 3, (4 goats)	AC	Yes	Yes		Lactose
Slovak Rep.	2014	White Shorthaired Goat	Parity 1 to 3, (456 goats)	AC	Yes	Yes		Lactose
Slovak Rep.	2015	White Shorthaired Goat	Parity 1 to 3, (493 goats)	AC	Yes	Yes		Lactose
Spain	2014	Cabra Malagueña		A4, A6, AT	Yes, 4,57 %	Yes, 3,6%	Yes, 1.167.890 cells	
Spain	2014	Florida		A4, A6 AT	Yes, 4,9 %	Yes, 3,4%	Yes	Dry matter
Spain	2015	Florida		A4, A6, AT4, AT6	Yes 4,9%	Yes 3,4%	Yes	Dry matter
Spain	2014	Guadarrama		A6, AT6	Yes. 4,6 %	Yes. 3,5%	Yes	Dry matter, lactose
Spain	2015	Guadarrama		A6, AT6	Yes. 4,6 %	Yes. 3,5%	Yes	Dry matter, lactose
Spain	2014	Majorera		A6	Yes. 4,7 %	Yes. 4,12%	No	Dry matter
Spain	2015	Majorera		A6	Yes. 4,77 %	Yes. 4,12%	No	Dry matter, lactose

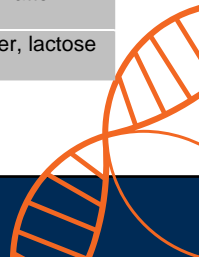


Table 3 - Optional tests for milk composition

Country	Year	Breed or population (Name)	Categories or classes of age or parity concerned	Method used for recording milk composition <sup>1</sup>	Fat	Protein	SCC	Other Analysis
Spain	2014	Murciano-Granadina		A4, A6.	Yes, 5,21 %	Yes, 3,58%	Yes. 954.000 cells/m	Lactose, Dry matter
Spain	2014	Payoya		A4, A6.	Yes, 4,8 %	Yes, 3,7%	Yes, 1.335.000 cells	Lactose, Dry matter
Spain	2015	Payoya		A4, A6	Yes. 4,2%	Yes. 3,5%	Yes	Dry matter, lactose
Spain	2015	Verata		A, AT	Yes	Yes	Yes	Lactose
Switzerland	2014	All breeds		A4, AT4	Yes	Yes	Yes	
Switzerland	2015	All breeds		A4, AT4	Yes	Yes	Yes	

**NOTE**

<sup>1</sup> A4, A5, A6, AT, AC , E4, EC, ET (see appendix A of the ICAR regulations for milk recording in sheep). If other method used, please describe it.

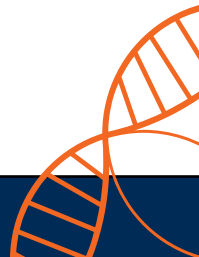


Table 4 - Recording of non-milking traits

Country	Year	Breed or population	Reproductive traits, weights and growths, udder score, longevity	On-farm recording	Breeding evaluation
			Traits		
Croatia	2014	Alpine	Reproductive traits and birth weight	Yes	No
Croatia	2015	Alpine	Reproductive traits and birth weight	Yes	No
Croatia	2014	Saanen	Reproductive traits and birth weight	Yes	No
Croatia	2015	Saanen	Reproductive traits and birth weight	Yes	No
Czech Rep.	2014	All Breeds	Weight, reproductive traits	Yes	
Czech Rep.	2015	All Breeds	Weight, reproductive traits	Yes	
Italy	2014	Camosciata delle Alpi, Saanen	Linear evaluation	Yes	Yes
Latvia	2014	All breeds	Udder score	Yes	
Serbia	2015	Alpine	Fertility, birth weight, body weight	Farm recording	Yes
Serbia	2015	Saanen	Fertility, birth weight, body weight	Farm recording	Yes
Serbia <sup>1</sup>	2014	Alpine	Fertility, birth weight, body weight	Farm recording	Yes
Serbia <sup>1</sup>	2014	Saanen	Fertility, birth weight, body weight	Farm recording	Yes
Slovak Republic	2015	Anglo Nubian	Reproductive traits, weight	Yes	No
Slovak Republic	2015	Brown Shorthaired Goat	Reproductive traits, weight	Yes	No
Slovak Republic	2015	Saanen	Reproductive traits, weight	Yes	No
Slovak Republic	2014	White Shorthaired Goat	Reproductive traits, weight	Yes	No
Slovak Republic	2015	White Shorthaired Goat	Reproductive traits, weight	Yes	No

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

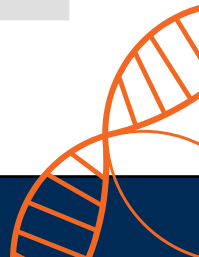


Table 4 - Recording of non-milking traits

Country	Year	Breed or population	Reproductive traits, weights and growths, udder score, longevity		
			Traits	On-farm recording	
Spain	2014	Cabra Malagueña	Weights and growths, udder score, mobility	Yes	No
Spain	2014	Florida	Weights and growths, udder score, reproductive traits, longevity	Yes (Reproductive and udder score trait)	Yes (Udder score)
Spain	2014	Florida	Weights and growths, udder score, reproductive traits, longevity	Yes (Reproductive traits)	No
Spain	2015	Florida	Reproductive traits, udder score, Weights and growths, longevity	Yes (Reproductive traits and udder scor)	Yes (udder score)
Spain	2014	Guadarrama	Reproductive traits, udder score, Weights and growths, longevity	Yes (Reproductive traits)	No
Spain	2015	Guadarrama	Reproductive traits, udder score, Weights and growths, longevity	Yes (Reproductive traits)	No
Spain	2014	Majorera	Weights and growths, udder score, reproductive traits, longevity	No	No
Spain	2015	Majorera	Reproductive traits, udder score, Weights and growths, longevity	No	No
Spain	2014	Murciano-Granadina	Weights and growths, udder score, mobility	Yes	Yes
Spain	2014	Payoya	Reproductive and udder score traits, longevity	Yes	Yes (Reproductive traits)
Spain	2015	Payoya	Reproductive and udder score traits, longevity		
Spain	2015	Verata	Reproductive and udder score traits, weights and growths	Yes	Yes

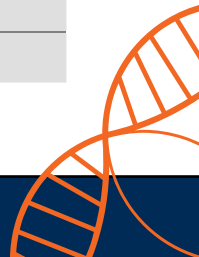




Table 4 - Recording of non-milking traits

Country	Year	Breed or population	Reproductive traits, weights and growths, udder score, longevity		Breeding evaluation
			Traits	On-farm recording	
Switzerland	2014	All breeds	Reproduction, udder, longevity	Yes	Yes
Switzerland	2015	All breeds	reproduction, udder, longevity	Yes	Yes

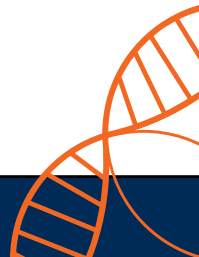


Table 5 - Milk recording equipment used in case of machine milking

Country	Year	Breed or population (name)	Indicate jars/meter	Name of the manufacturer	Measurement (weight/volume)	Approximate number in use
Croatia	2014	Alpine	Jars	Cartel Germany	Volume, Sampler	45
Croatia	2015	Alpine	Jars	Cartel Germany	Volume, Sampler	45
Croatia	2014	Saanen	Jars	Cartel Germany	Volume, Sampler	11
Croatia	2015	Saanen	Jars	Cartel Germany	Volume, Sampler	11
Czech Rep.	2015	All Breeds		TruTest	Tru-test mini	
Serbia <sup>1</sup>	2014	Alpine	Manual and automatic	DeLaval, GEA	DeLaval, GEA	5
Serbia <sup>1</sup>	2015	Alpine	Manual and automatic	DeLaval, GEA	DeLaval, GEA	6
Serbia <sup>1</sup>	2014	Saanen	Automatic	DeLaval	DeLaval	1
Serbia <sup>1</sup>	2015	Saanen	Automatic	DeLaval	DeLaval	1
Slovak Rep.	2014	All Breeds	Fisher Slovakia Volume, Sampler no, 3	Trutest	Weight, Sampler No	20
Slovak Rep.	2015	All Breeds	Fisher Slovakia - Volume	Trutest	Weight, Sampler no	20
Spain	2014	Cabra Malagueña	Meter	Trutest	Weights	30
Spain	2014	Florida	Meter	True-test	Weight	18
Spain	2015	Florida	Meters	Tru-Test	Weight	18
Spain	2014	Guadarrama	Meters	Alfa Laval/Schneder	Weight/volume	24
Spain	2015	Guadarrama	Meters	Alfa Laval/Schneder	Weight/volume	24
Spain	2015	Majorera				
Spain	2014	Murciano-Granadina	Meter	De Laval, Westfalia, Manovac, Flaco	Weight and volume	370
Spain	2014	Payoya				
Spain	2015	Payoya				
Spain	2015	Verata	Meters	Tru-Test		96

<sup>1</sup> Data relating to the region AP Vojvodina in Serbia

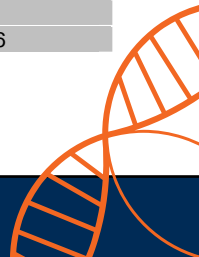


Table 6 - Breeding programme using artificial insemination

Country	Year	Breed or population	Fresh semen	Frozen semen	Selection criteria	Progeny test	
						AI progeny-tested rams per year	Number of AI per progeny-tested rams
Croatia	2015	Alpine		Yes	Yes		
Croatia	2014	Alpine		Yes	Yes		
Croatia	2014	Saanen		Yes	Yes		
Croatia	2015	Saanen		Yes	Yes		
Serbia	2014	Alpine					
Spain	2014	Cabra Malagueña	2.713		Genetic value and Milk composition	10	200-250
Spain	2014	Florida	1.480	50	Genetic value and morphology of goats	4	150-200
Spain	2015	Florida	1.464	75	Milk production and morphology of goats	4	250
Spain	2014	Guadarrama	Yes	No	Milk production	2	150
Spain	2015	Guadarrama	Yes	No	Milk production	2	122
Spain	2014	Majorera	No	No			
Spain	2015	Majorera					
Spain	2014	Murciano-Granadina	4.601	1446	Milk production	25	200
Spain	2014	Payoya	0	279	Milk production	3 males each 2 years	200
Spain	2015	Payoya		390	Milk production	3 males each 2 years	200
Spain	2015	Verata					

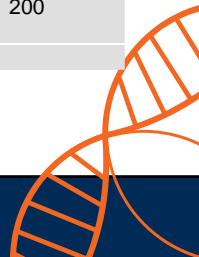


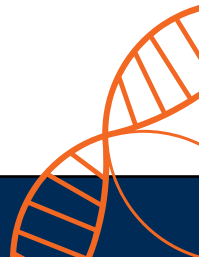
Table 7 - Molecular information

Country	Year	Breed or population	Type of genotyping <sup>a</sup>	Number of analysis, Number of flocks involved	Use in experimental program	Effective use in selection program
Croatia <sup>1</sup>	2015	All breeds				
Croatia <sup>1</sup>	2014	All breeds				
Italy	2015		EMIDA	900 analysis	Yes	
Spain	2014	Cabra				
Spain	2014	Malagueña	Filiation Tests (19 markers)	1.500 analysis in 22 flocks	No	Yes
Spain	2014	Florida	Filiation Test	2.806 analysis in 40 flocks	No	Yes
Spain	2015	Florida	Filiation Test	2.574 analysis in 41 flocks	No	Yes
Spain	2014	Guadarrama	Filiation Test	985 Analysis in 28 flocks	No	Yes
Spain	2015	Guadarrama	Filiation test	671 analisis in 28 flocks	No	Yes
Spain	2014	Majorera	Casein	45 analisis	Yes	No
Spain	2015	Majorera	Casein	45 analisis	Yes	No
Spain	2014	Murciano-Granadina	Filiation tests (23 markers)	9.440 analysis in 98 flocks	No	Yes
Spain	2014	Payoya	Filiation Test (19 markers)	1.307 analysis in 21 flocks	Yes	Yes
Spain	2015	Payoya	Filiation Test (19 markers)	1.046 analysis in 21 flocks	Yes	Yes
Spain	2015	Verata	Filiation Test	300 analysis		Yes

**NOTE**

<sup>a</sup> Every kind of genotyping:  
 Filiation tests (precise number of markers),  
 PrP genotyping,  
 Protein (precise :  $\alpha$ 1casein,  $\beta$  lactoglobulin ... ),  
 Markers for QTL detection program,  
 Markers for MAS,  
 Other (precise).

<sup>1</sup> No data available



## ICAR Member Organisations participating in the survey

The following are the contacts of the ICAR Member Organisations who participated in the surveys and that are responsible for the submission of the data.

Their collaboration is acknowledged and much appreciated

### Australia

Daniel Abernethy  
Australian Dairy Herd Improvement Scheme  
Email: dabernethy@adhis.com.au

### Austria

Franz Sturmlechner  
Zentrale Arbeitsgemeinschaft Österreichischer Rinderzüchter (ZAR)  
Email: sturmlechner@zar.at; info@zar.at

### Belgium (Wallonie)

Jean-François Duckerts  
Service Public de Wallonie (SPW) Direction Générale Agriculture,  
Ressources naturelles et Environnement (D GARNE) Département du  
Développement Direction de la Qualité  
Email: jeanfrancois.duckerts@spw.wallonie.be

### Canada

Neil Petreny  
Canadian DHI, c/o Ontario DHI  
Email: npetreny@canwestdhi.com

### Chile

Jorge Lama  
COOPRINSEM  
Email: jlama@cooprinsem.cl

### China

An Pengpeng  
Shanghai Dairy Cattle Breeding Center Co., Ltd  
Email: anpengpeng@brightdairy.com

### China

Jianbin Li  
Dairy Cattle Research Centre of Shandong Academy of Agricultural  
Sciences  
Email: msdljb@163.com

### Croatia

Zdravko Barac  
Croatian Agricultural Agency  
Email: zbarac@hpa.hr; zdravko.barac@gmail.com

### Czech Republic

Pavel Bucek  
Czech Moravian Breeder's Corporation Inc.  
Email: bucek@cmsch.cz

### Estonia

Kaivo Ilves  
Eesti Pollumajandusloomade Joudluskontrolli AS  
Email: kaivo.ilves@epj.ee

### Finland

Juho Kyntäjä  
ProAgria Group  
Email: juho.kyntaja@mloy.fi

### France

Laurent Journaux  
France Génétique Elevage  
Email: laurent.journaux@idele.fr

#### Germany

Bianca Lind

Arbeitsgemeinschaft Deutscher Rinderzüchter e.V. (ADR)

Email: bianca.lind@adt.de

#### Hungary

Julianna Kóti Seenger

Livestock Performance Testing Ltd. Hungary, LPT, PF.:258

Email: seenger.julianna@atkft.hu

#### Hungary

Csaba Németh

National Food Chain Safety Office (Nemzeti Élelmiszerlánc-biztonsági

Hivatal, NÉBIH)

Email: NemethCsa@nebih.gov.hu

#### Ireland

Brian Coughlan

Irish Cattle Breeding Federation Society Limited

Email: bcoughlan@icbf.com

#### Israel

Ephraim Ezra

Israel Cattle Breeders' Association (ICBA)

Email: hmb-efraim@icba.org.il

#### Italy

Mauro Fioretti

Italians' Breeders Association (AIA)

Email: fioretti.m@aia.it

#### Latvia

Ivans Vorslovs

State agency Agricultural data centre (LDC)

Email: ivans.vorslovs@ldc.gov.lv

#### Lithuania

Vilius Rekštys

State Animal Breeding Supervision Service, Ministry of Agriculture

Email: veislininkyste@zum.lt

#### Morocco

Mohamed El Kharroussi

Association Nationale des Eleveurs de Bovins (ANEB)

Email: m.elkharroussi@gmail.com

#### New Zealand

Tim Mackle

DairyNZ

Email: tim.mackle@dairynz.co.nz

#### New Zealand

Andrew Fear

Livestock Improvement Corporation

Email: afear@lic.co.nz

#### Norway

Tone Roalkvam

TINE SA

Email: tone.roalkvam@tine.no

#### Poland

Danuta Radzio

Polish Federation of Cattle Breeders and Dairy Farmers

Email: d.radzio@pfb.pl

#### Serbia

Mile pecinar

University of Novi Sad, Agricultural Faculty, Dept. of Animal Science

Email: mile.pecinar@stocarstvo.edu.rs



Slovak Republic  
Martina Lacová  
The Breeding Services of the Slovak Republic  
Email: martinalacova@pssr.sk

Slovenia  
Marija Klopčič  
University of Ljubljana, Biotechnical Faculty, Dept. of Animal Science,  
Chair of Biometry and Data Processing  
Email: marija.klopčič@bf.uni-lj.si

South Africa  
Norman Maiwashe  
ARC (Agricultural Research Council), Centre for Animal Breeding and  
Genetics, Animal Improvement Institute  
Email: norman@arc.agric.za

South Korea  
Young Jun Song  
Korea Animal Improvement Association  
Email: yjsong@aiak.or.kr

South Korea  
In-Geun Cha  
Dairy Cattle Improvement Centre  
Email: mountdew@naver.com

Spain  
José Luis Urquijo y Narváez  
FEAGAS (Federación Española de Asociaciones de Ganado Selecto)  
Email: feagas@feagas.es

Sweden  
Nils-Erik Larsson  
Växa Sverige  
Email: nils-erik.larsson@vxa.se

Switzerland  
Director of ASR  
ASR Arbeitsgemeinschaft Schweizerischer Rinderzüchter  
Email: info@asr-ch.ch

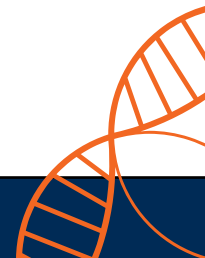
Taiwan  
Yu-Shin Cheng  
Livestock Research Institute  
Email: yushin@mail.tlri.gov.tw

The Netherlands  
Louwrens van Keulen  
CRV  
Email: Louwrens.van.Keulen@crv4all.com

Tunisia  
Directeur Général  
Ministère de l'Agriculture, Office de l'Elevage et des Pâturages (OEP)  
Email: dg.oep@email.ati.tn

Turkey  
Hüseyin Veliöğlü  
Cattle breeders' association of Turkey  
Email: ibrahim.karakoyunlu@gmail.com

United Kingdom  
Sue Cope  
Cattle Information Service  
Email: suecope@thecis.co.uk





United Kingdom  
Tony Craven  
National Milk Records plc  
Email: [tonyc@nmr.co.uk](mailto:tonyc@nmr.co.uk)

United Kingdom  
Suzanne Harding  
Holstein UK  
Email: [Suzanne@holstein-uk.org](mailto:Suzanne@holstein-uk.org)

United Kingdom  
Royal Jersey Agricultural and Horticultural Society-Royal Jersey  
Showground Milk Records  
Email: [genetics@royaljersey.co.uk](mailto:genetics@royaljersey.co.uk)

Uruguay  
Fernando Sotelo  
Instituto Nacional para el Mejoramiento Lechero  
Email: [fsotelo@mu.org.uy](mailto:fsotelo@mu.org.uy)

USA  
Leslie Thoman  
National Dairy Herd Improvement Association (NDHIA)  
Email: [lthoman@dhia.org](mailto:lthoman@dhia.org)

