Meeting of the ICAR Working Group on Performance Recording of Dairy Sheep

Cork, Ireland, 29th May 2012

Draft agenda

- Constitution of the group
- Main activities of the WG over the last 2 years
- Presentation of the results of the on-line enquiry
- Add milk quality in the enquiry
- Guidelines : quality assurance for AC method
- Guidelines : udder morphology
- Miscellaneous

Agenda 1

Members of the Working Group in Riga

Jean-Michel ASTRUC	France	Institut de l'Elevage
Zdravko BARAĆ	Croatia	Croatian Agricultural Agency
Francis BARILLET	France	INRA
Antonello CARTA	Italy	AGRIS Sardinia
Elisha GOOTWINE	Israel	Volcani Center
Drago KOMPAN	Slovenia	University of Ljubljana
Franz-Josef ROMBERG	Germany	Dienstleistungszentrum Ländlicher Raum Westpfalz
Alessia TONDO	Italy	AIA
Eva UGARTE	Spain	NEIKER

No new members

Correspondent from the board : Clara Diaz from INIA (Spain)

Change of the name

WG on Milk Recording in Sheep

WG on Performance Recording of Dairy Sheep

- Agreed by the Board in 2011

Agenda 2

Main activities of the WG over the last 2 years (1/3)

Report of the activities, communication

Synthesis of the situation of the WG for Bourg-en-Bresse (France) session in May 2011. No meeting of the group.

Preparation of the emendations of the guidelines

Many exchanges about :

- Recording of udder morphology
- AC method and quality assurance

On-line enquiry

Preparation of the Cork session : tables, slides

Main activities of the WG over the last 2 years (2/3)

Co-operation with other bodies of ICAR

WG on Milk Recording of Goats : participation (J.M. Astruc) to the meeting of the group in Bourg-en-Bresse

Requirements on milk recording devices :
wish of the WG to not relax them to keep enough accuracy for each individual measures :
seems to be OK within ICAR

Main activities of the WG over the last 2 years (3/3)

Co-operation with non-ICAR organizations

Participation of A.Carta & J.M.Astruc to a core group
on sheep and goats within the FABRE-TP
(Farm Animal Breeding and Reproduction Technology Platform).
FABRE-TP is a European Technology Platform aiming at producing documents for Strategic Research Agenda.
Deliverables :
-Work presented in Stavanger (EAAP)
[by Joanne Connington for sheep and goats].
-General brochure available on web : http://www.fabretp.info/

Preparation of the Cork session

Agenda 3

PRESENTATION

OF THE RESULTS

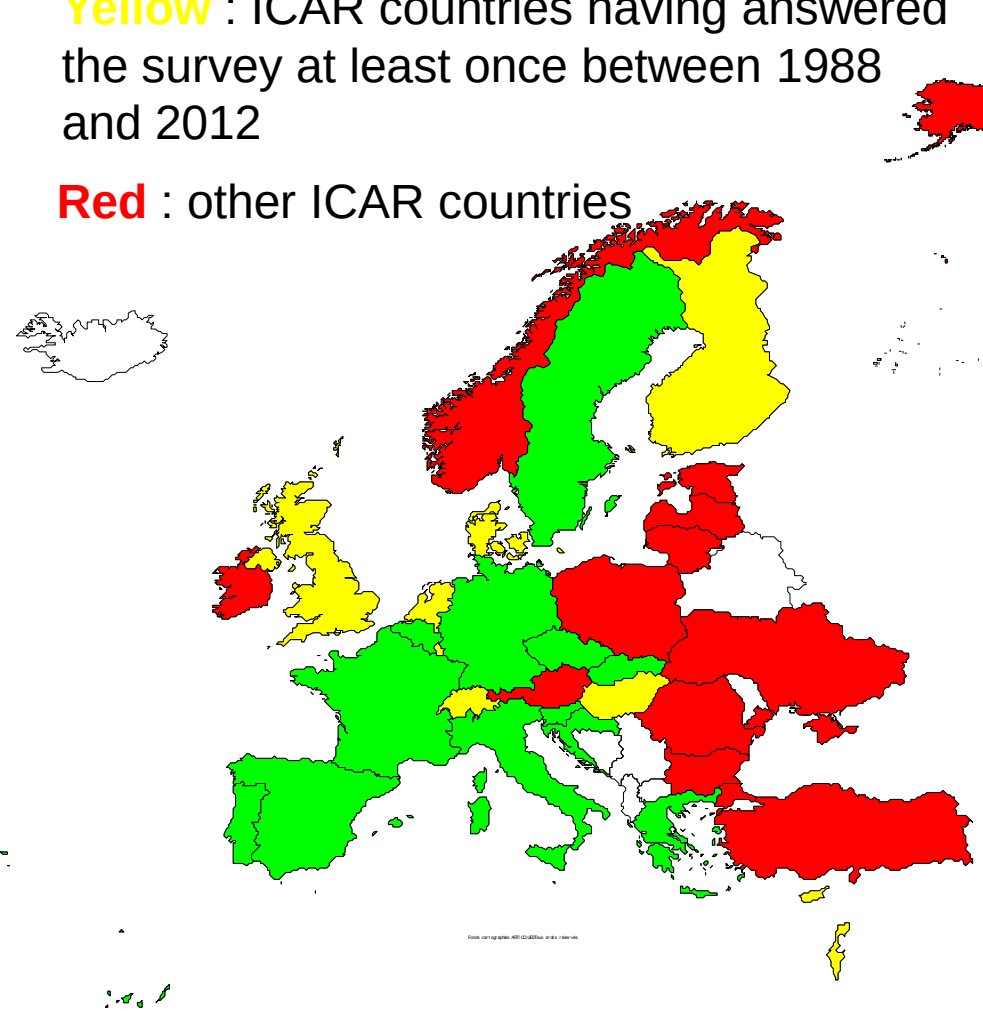
OF THE ON-LINE ENQUIRY

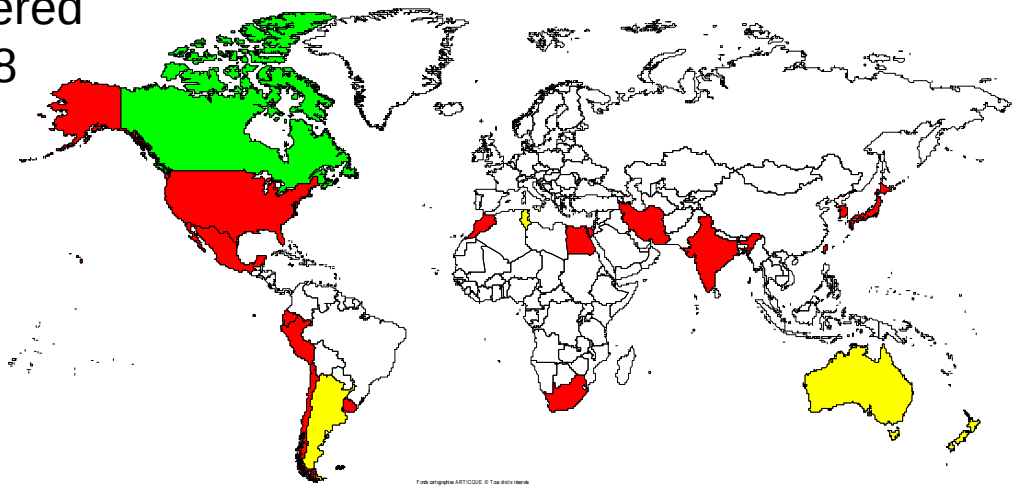
Yearly enquiry on-line

Green : ICAR countries having submitted data to the database in 2010-2011

Yellow : ICAR countries having answered the survey at least once between 1988 and 2012

Red : other ICAR countries





13 submissions in 2010-2011 (increasing !)

Remind regularly the countries

Survey on milk recording of sheep

- 13 answers

Belgium
Canada
Croatia
Czech Rep.
France
Germany
Greece
Italy
Portugal
Slovak Rep.
Slovenia
Spain
Sweden

Israel ?

Recorded population - countries (ICAR Cork 2012)

Countries	Size of population		Recorded population (official milk recording)		% recorded population
	#flocks	# ewes	#flocks	# ewes	
Italy (2011)		[5,687,000 [1]]	3,147	477,736	8.4%
Spain (2011) including Assaf (2010)	>11,581	2,221,120 [3,200,000 [1]]	697	402,088	12.6%
France (2011) [2]	5,055	1,395,000	767	300,473	21.5%
Greece (2011)	150,000	748,488 [8,100,000 [1]]	534	92,360	1.1%
Portugal (2011)	386	41,129 [438,000 [1]]	338	20,926	4.8%
Slovak Rep (2011)		[160,000 [1]]	97	10,827	6.8%

[1] figures from STATFAO

[2] 544,967 in D recording

Recorded population - countries (ICAR Cork 2012)

Countries	Size of population		Recorded population		% recorded population
	#flocks	# ewes	#flocks	# ewes	
Croatia (2011)	691	32,514	111	8,188	25.2%
Slovenia (2011)	115	4,950	43	4,234	85.5%
Czech Rep (2011)		[62,100 [1]]	26	853	1.4%
Germany (2011)	273	7,612	40	563	7.4 %
Canada (2011)			2	531	
Belgium (2010)	30	1,919	19	488	25.4%
Sweden (2010-11)	10 to 15 flocks				
TOTAL			**5,821**	**1,319,267**	

[1] figures from STATFAO

Recorded population - countries (ICAR Cork 2012)

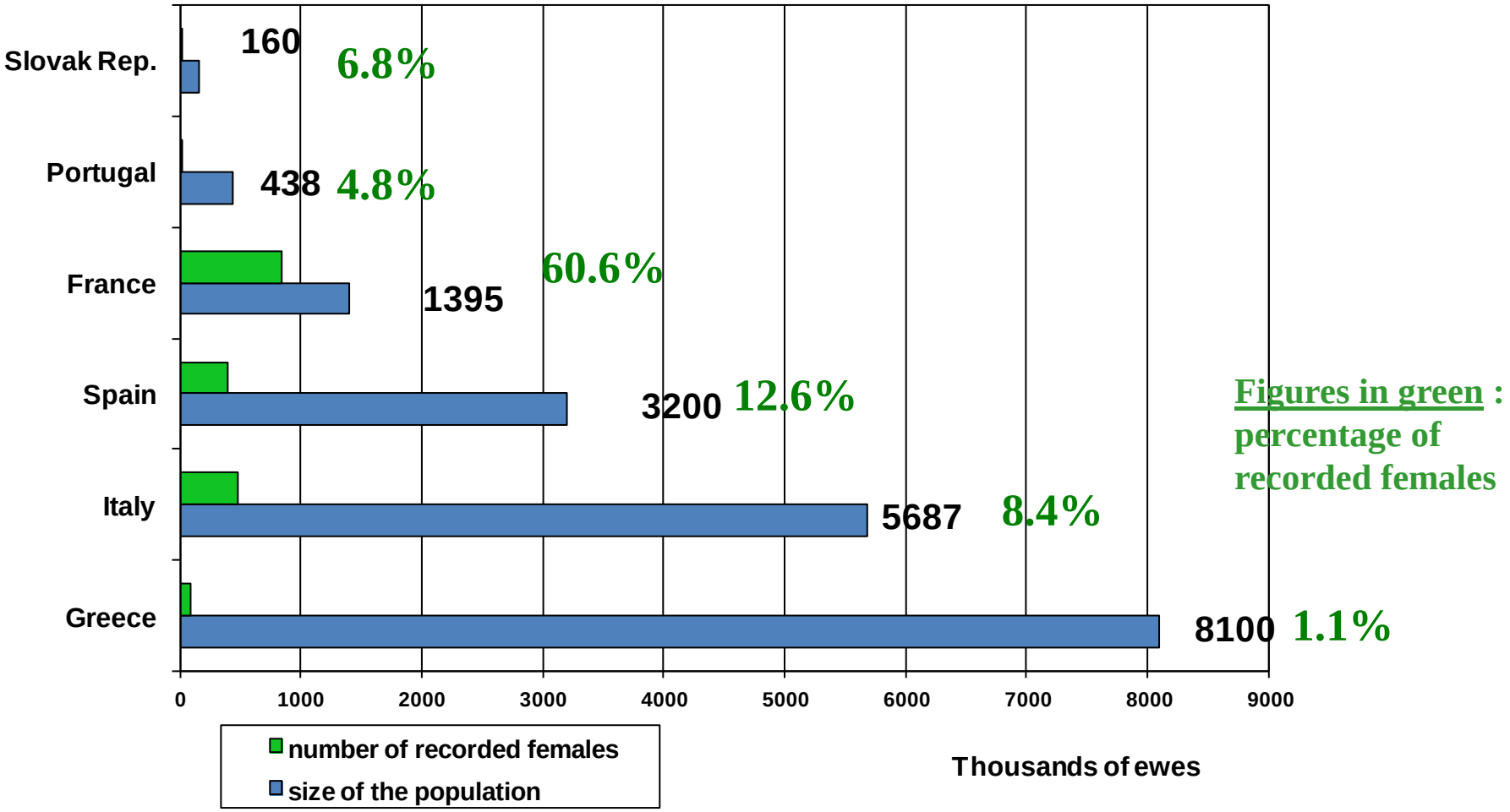
Particular case of Spain

Countries	Size of population		Recorded population		% recorded population
	#flocks	# ewes	#flocks	# ewes	
Spain (2011)	>11,581	2,221,120 [3,200,000 [1]]	697	402,088	12.6%
Spain local breeds (2011)	11,139	1,471,120	489	257,010	17.5%
Spain foreign breeds or crossing (2011)	190 (Lacaune only; no figure for Assaf)	1,730,000 [3]	78	145,078	8.4%

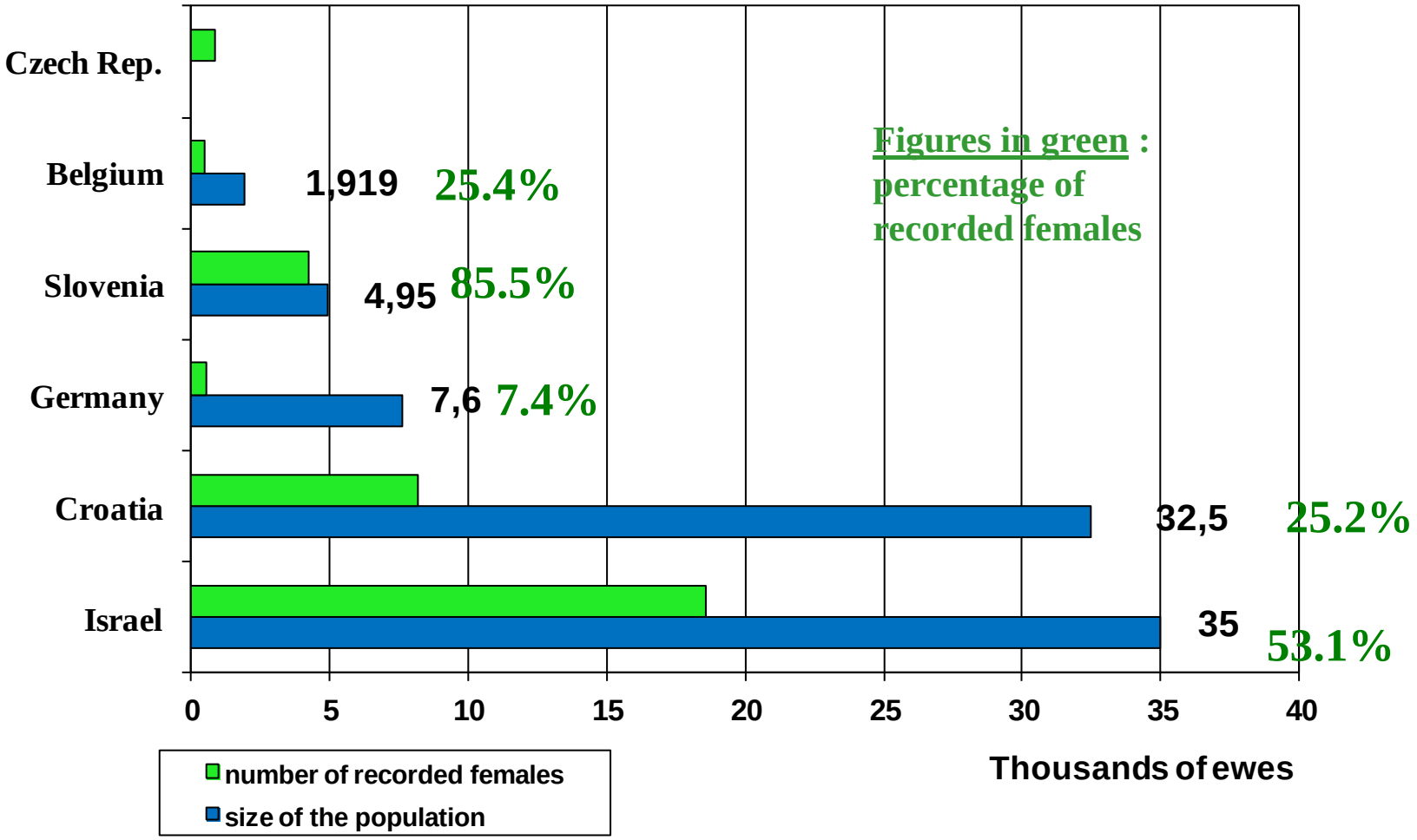
[1] figures from STATFAO

[3] deduced from STATFAO

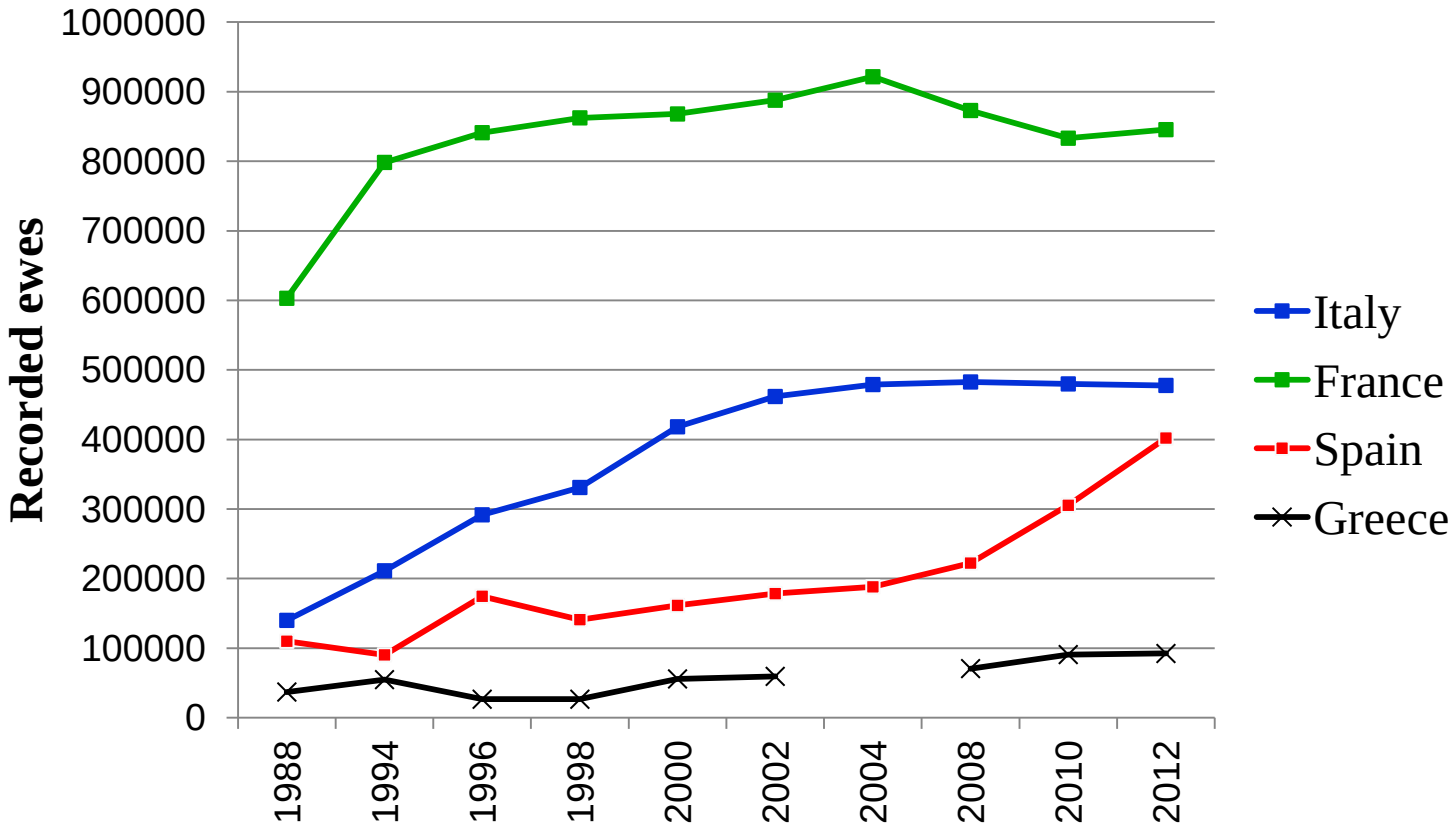
Sheep milk recording in countries with more than 100,000 ewes (ICAR Cork 2012)



Sheep milk recording in countries with less than 50,000 ewes (ICAR Cork 2012)



Evolution of number of recorded ewes in some ICAR countries (ICAR Cork 2012)



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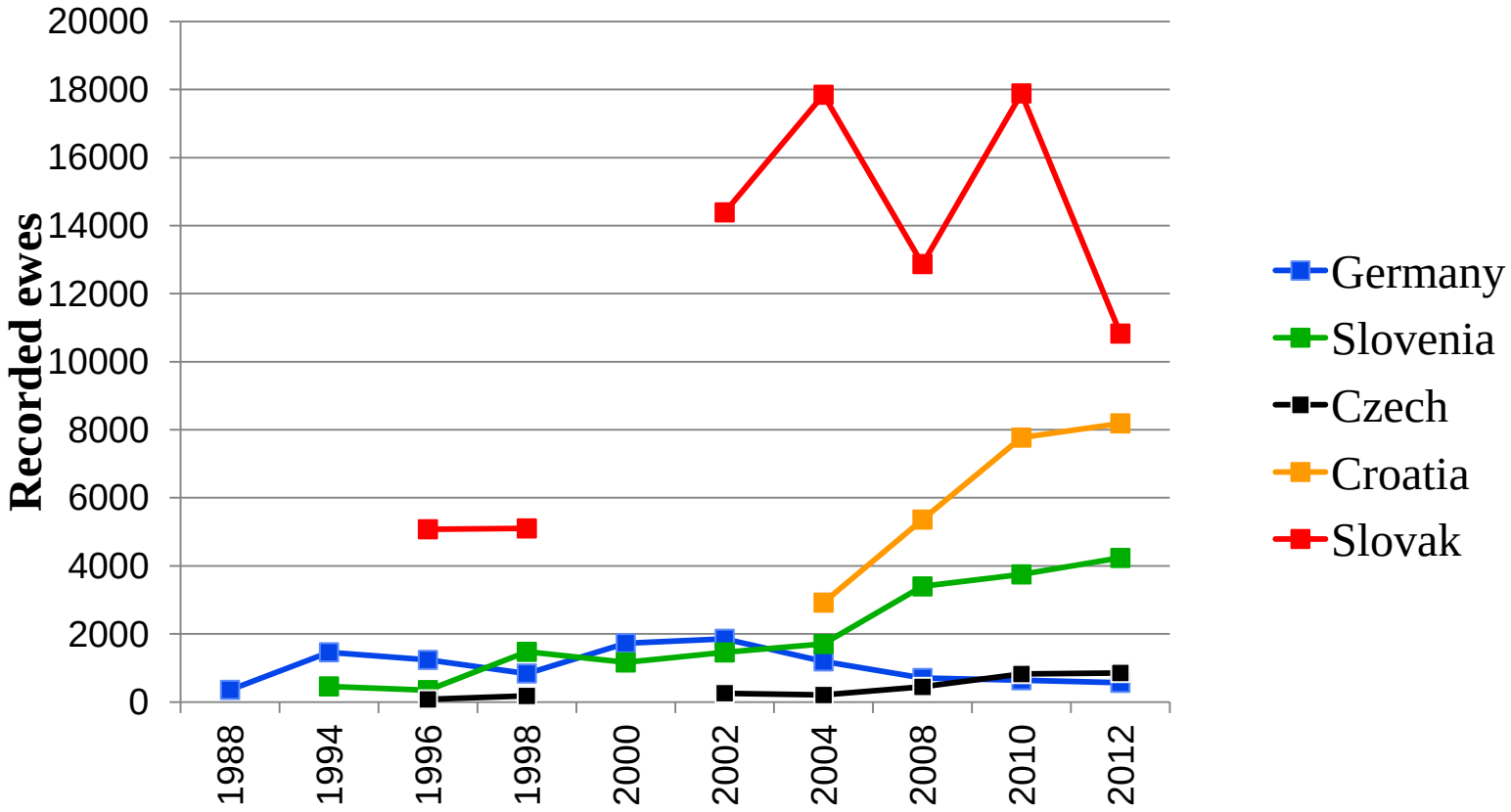


Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Belgium (2010)	Mouton Laitier Belge	21	593	19	488	82.3%
	Other breeds	9	1,326	0	0	
Sweden (2010-11)	East Friesian, Dairy sheep & crosses with swedish Finewool Sheep					
Canada (2011)				2	531	

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Germany (2011)	Ostfriesisches Milchschaf	273	7,612	40	563	7.4 %
	Lacaune	Present in 2010, but not in 2011				
Czech Rep. (2011)	Lacaune			2	176	
	East Friesian			23	672	
	Other breeds			1	5	
	Bergschaf, Bohemian forest sheep, Improved Valachian	Present in 2010, but not in 2011				

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Slovak Rep. (2011)	Improved Valachian		91,000 (*)	32	4,674	5.1 %
	Valachian			2	20	
	Tsigai		72,000 (*)	29	4,039	5.6 %
	Hybrids			13	1,460	
	Lacaune			14	596	
	East Friesian			7	38	

(*) figures from 2004

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Croatia (2011)	Paska	600	30,000	53	5,041	16.8 %
	Istrian	41	2,314	41	2,314	100 %
	East Friesian	50	2,000	17	833	41.7 %
Slovenia (2011)	Bovec	75	2,700	25	2,674	99 %
	Istrian Pramenka	15	1,150	4	896	78 %
	Improved Bovec	25	1,100	14	664	60 %

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population (official milk recording)		% recorded population	Ewes in D method
		#flocks	# ewes	#flocks	# ewes		
France (2011)	Lacaune	2,500	885,000	364	170,408	76.8 %	508,982
	Manech Tête Rousse	1,300	265,000	215	76,321	35.7 %	18,345
	Corse	375	85,000	58	16,268	31.8 %	10,759
	Basco-Béarnaise	400	75,000	82	24,108	40.0 %	5,887
	Manech Tête Noire	480	85,000	48	13,365	16.9 %	994

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Greece (2011)	Xios	322	82,388	76	21,308	25.9 %
	Lesvou	1,650	254,000	102	19,783	7,8 %.
	Sfakion	480	58,000	79	10,675	18.4 %
	Frisarta	645	57,500	73	9,822	17.1 %
	Karagouniki	2,600	180,000	77	8,095	4.5 %
	Serron	35	6,000	32	5,422	90.4 %
	Kalaritiki	21	6,104	18	5,339	87.5%
	Glossas Skopelous	19	3,969	19	3,969	100%
	Pilioritiki	26	2,776	26	2,776	100%

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Greece (2011)	Katsika	5	1,633	5	1,633	100%
	Zakynthou	10	1,000	10	1,000	100%
	Sarakatsaniko	5	1,205	3	975	80.9%
	Agriniou	4	822	4	822	100%
	Kimis	10	741	10	741	100%
	Florina-Pelagonias	2	350			0
	Karistou	450	60,000			0
	Kefallinias	300	32,000			0

748,488 purebred sheep (out of 8,100,000 dairy sheep on the whole

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Italy (2011)	Sarda	13,000	3,600, 000	1,062	239,519	6.9 %
	Valle del Belice		700,000	1,101	161,775	
	Comisana			562	39,602	7.6 %
	Pinzirita			243	25,117	
	Massese			55	4,494	
	Delle Langhe			63	2,686	
	Lacaune			10	1,388	

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Italy (2011)	Barbaresca			14	904	
	Moscia Leccese			11	719	
	Nera di Arbus			13	625	
	Brigasca			5	611	
	Altamurana			4	227	
	Frisona			4	69	

Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Spain (2011)	Manchega	917	569,084	141	117,654	20,7%
	Assaf & crosses (figures 2010)		600,000	130	100,944	16.8%
	Latxa CN	4,297	177,435	116	48,891	27,6%
	Lacaune	190	150,000	78	44,134	29,4%
	Churra	950	480,000	86	42,266	8,8%
	Latxa CR	4,397	205,575	78	33,370	16,2%
	Castellana	19	17,500	10	7,149	40,9%
	Karranzana	761	11,661	10	2,604	22,3%

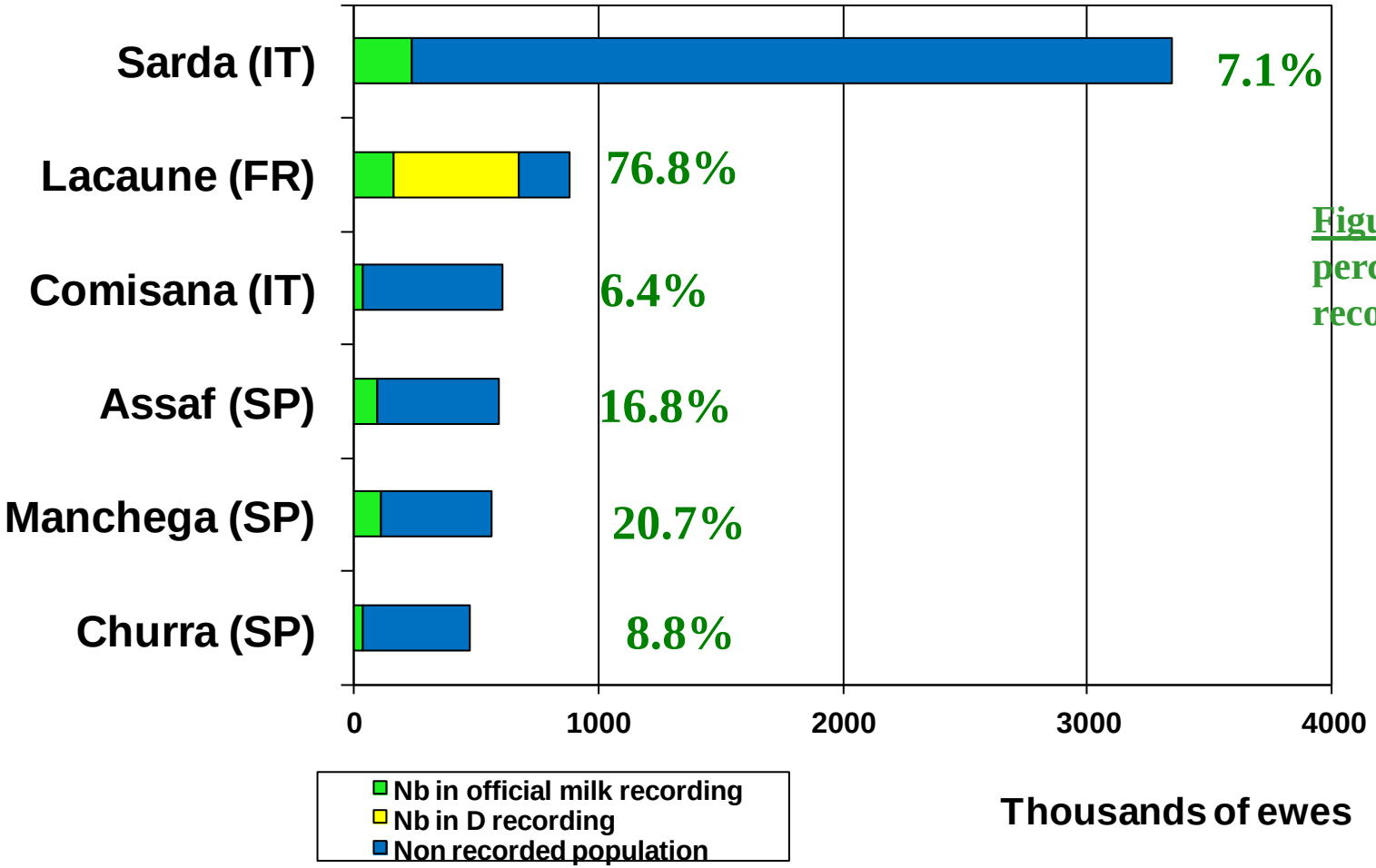
Recorded population - breeds (ICAR Cork 2012)

Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Spain (2011)	Colmenarena	13	4,276	5	2,303	53,9%
	Rubia del Molar	34	5,064	8	1,338	26,4%
	Canaria			33	910	
	Merina de Grazalema	3	525	2	525	100%

Recorded population - breeds (ICAR Cork 2012)

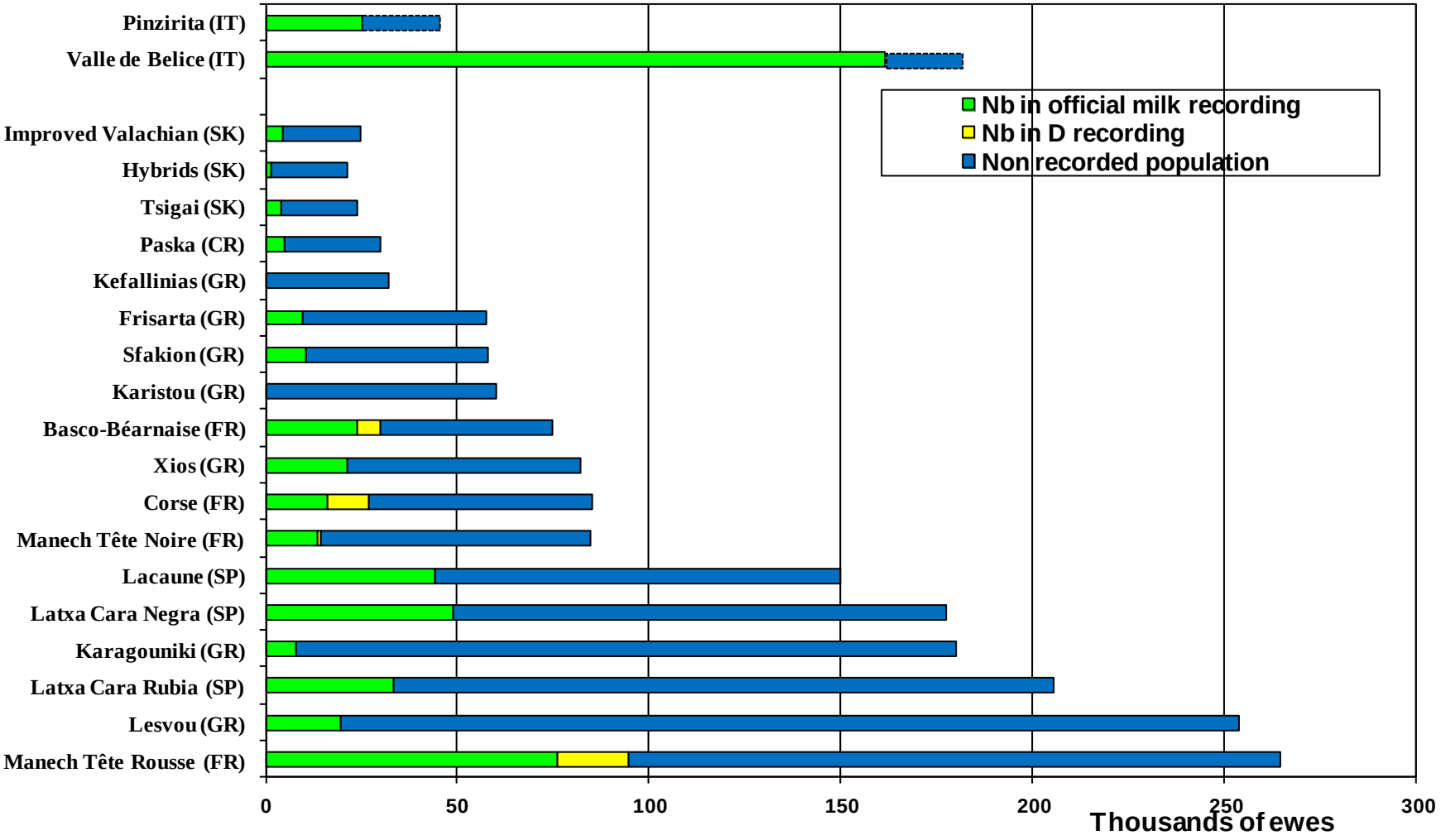
Countries	Breeds	Size of population		Recorded population		% recorded population
		#flocks	# ewes	#flocks	# ewes	
Portugal (2011)	Serra de Estrella	217	19,861	217	12,310	62,0%
	Churra Terra Quente	149	17,372	103	7,066	40,7%
	Saloia	20	3,896	18	1,550	39,8%

Sheep milk recording in breeds with more than 400,000 ewes (ICAR Cork 2012)

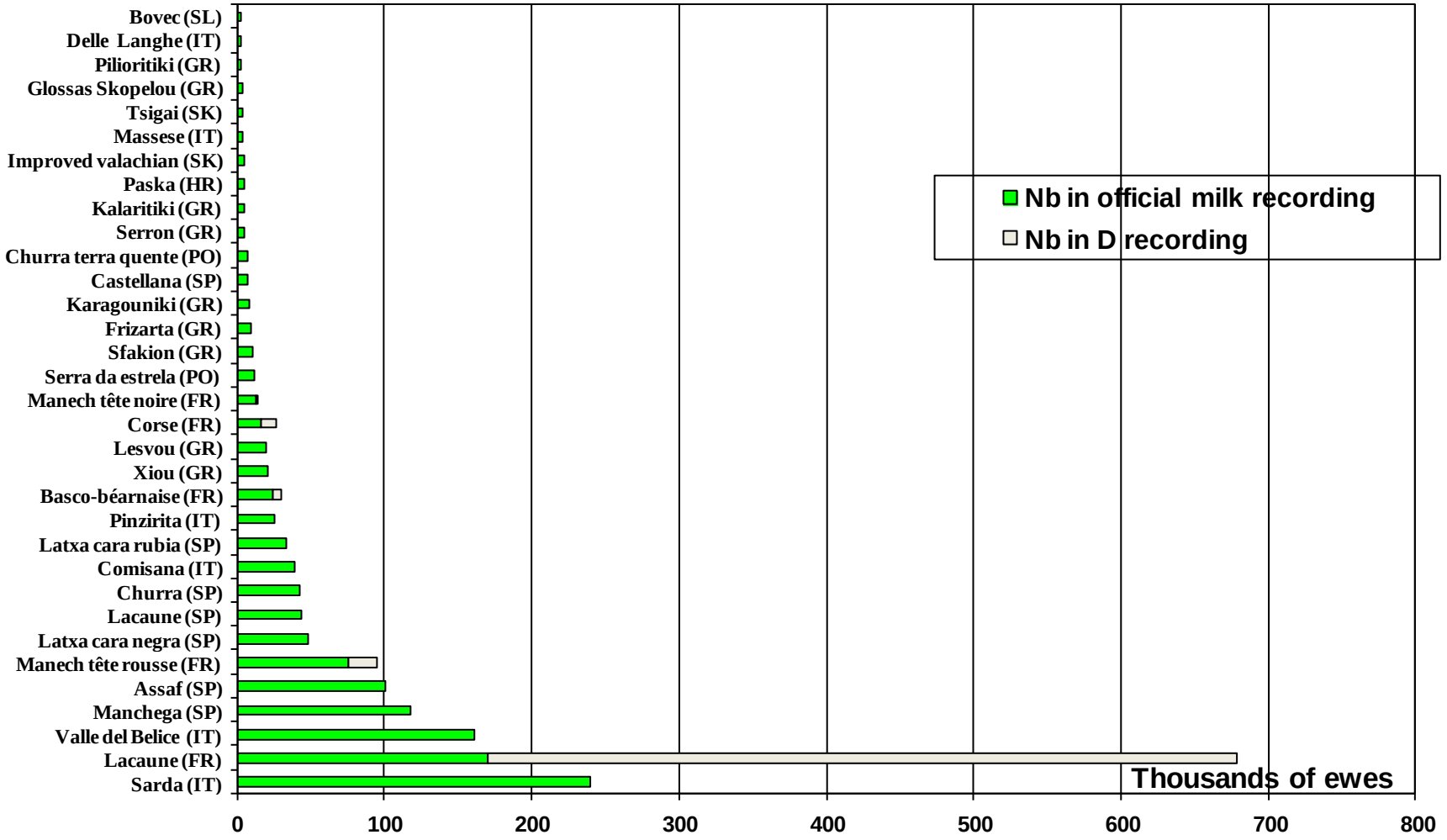


Figures in green : percentage of recorded females

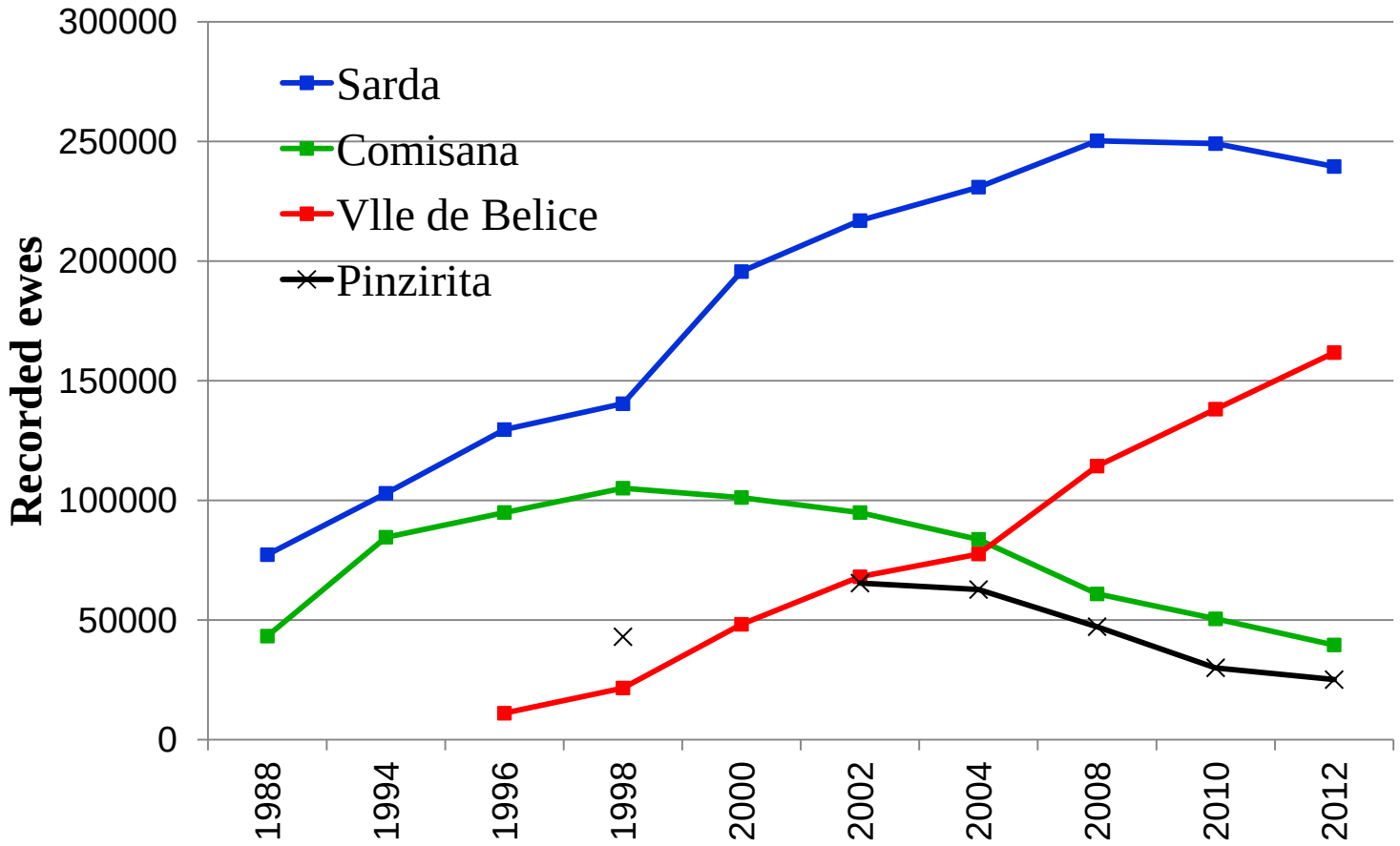
Sheep milk recording in breeds with more than 20,000 ewes (ICAR Cork 2012)



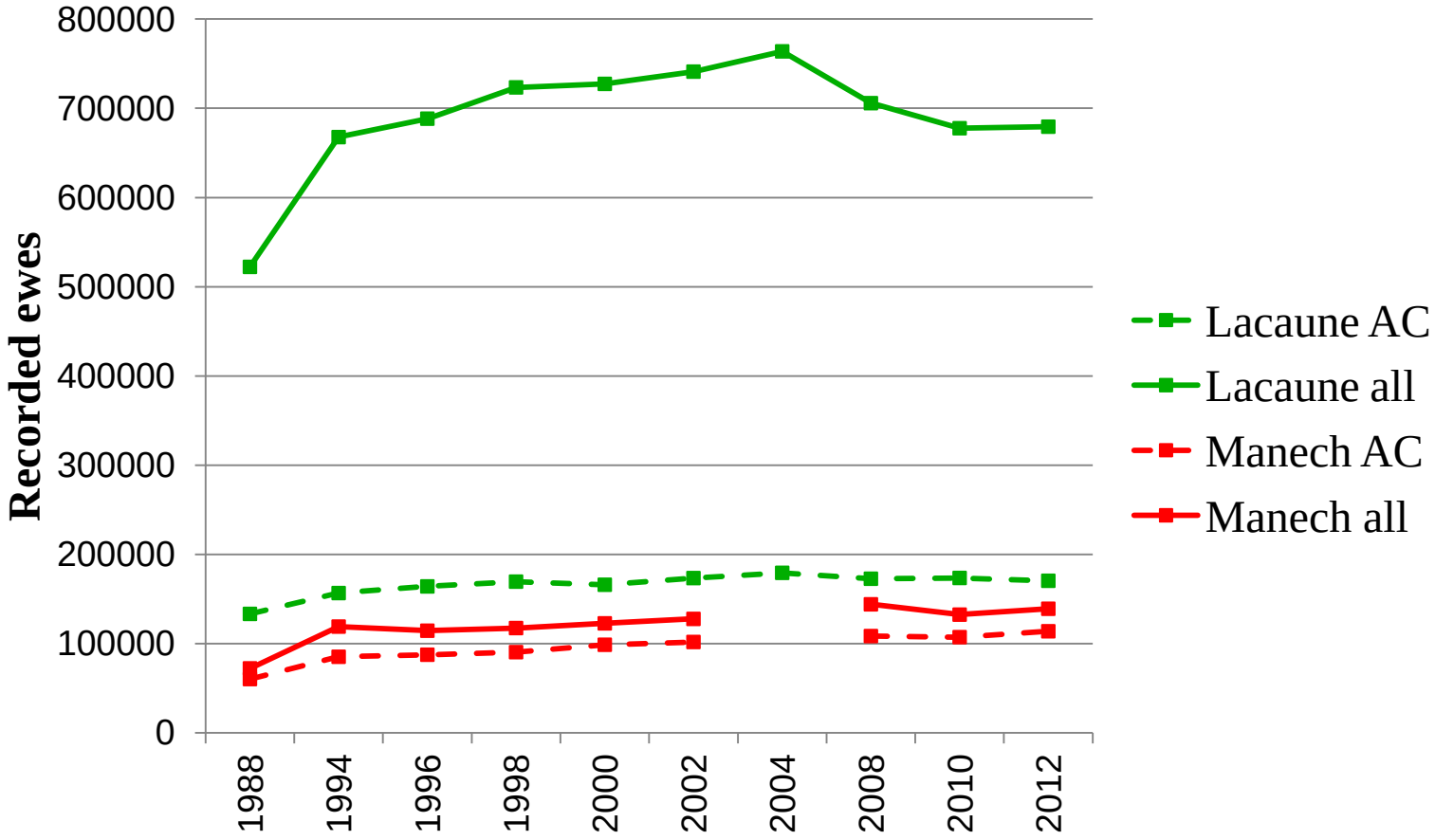
Sheep milk recording in breeds with more than 2,000 recorded ewes (ICAR Cork 2012)



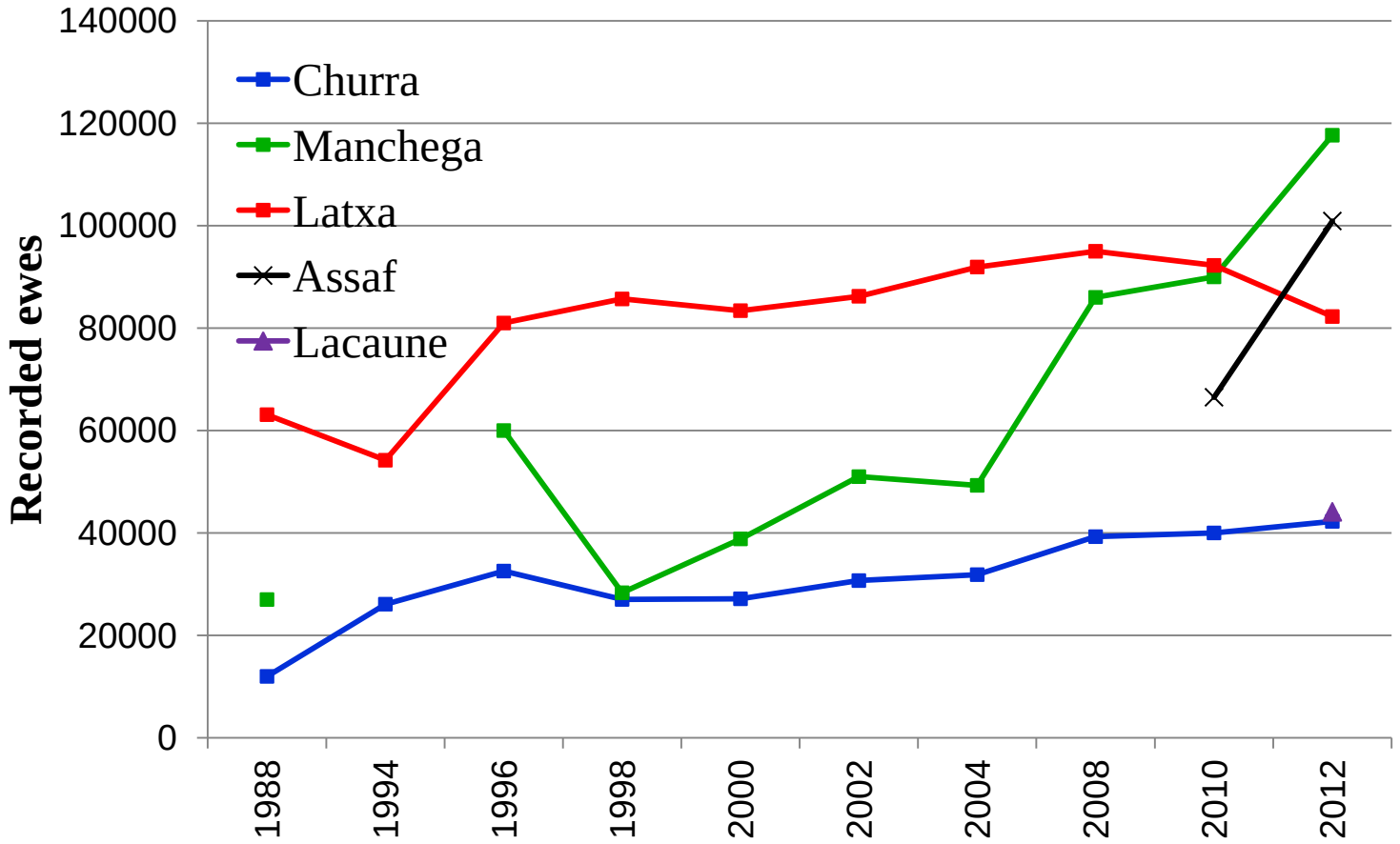
Evolution of number of recorded ewes in some major Italian breeds (ICAR Cork 2012)



Evolution of number of recorded ewes in some major French breeds (ICAR Cork 2012)



Evolution of number of recorded ewes in some major Spanish breeds (ICAR Cork 2012)

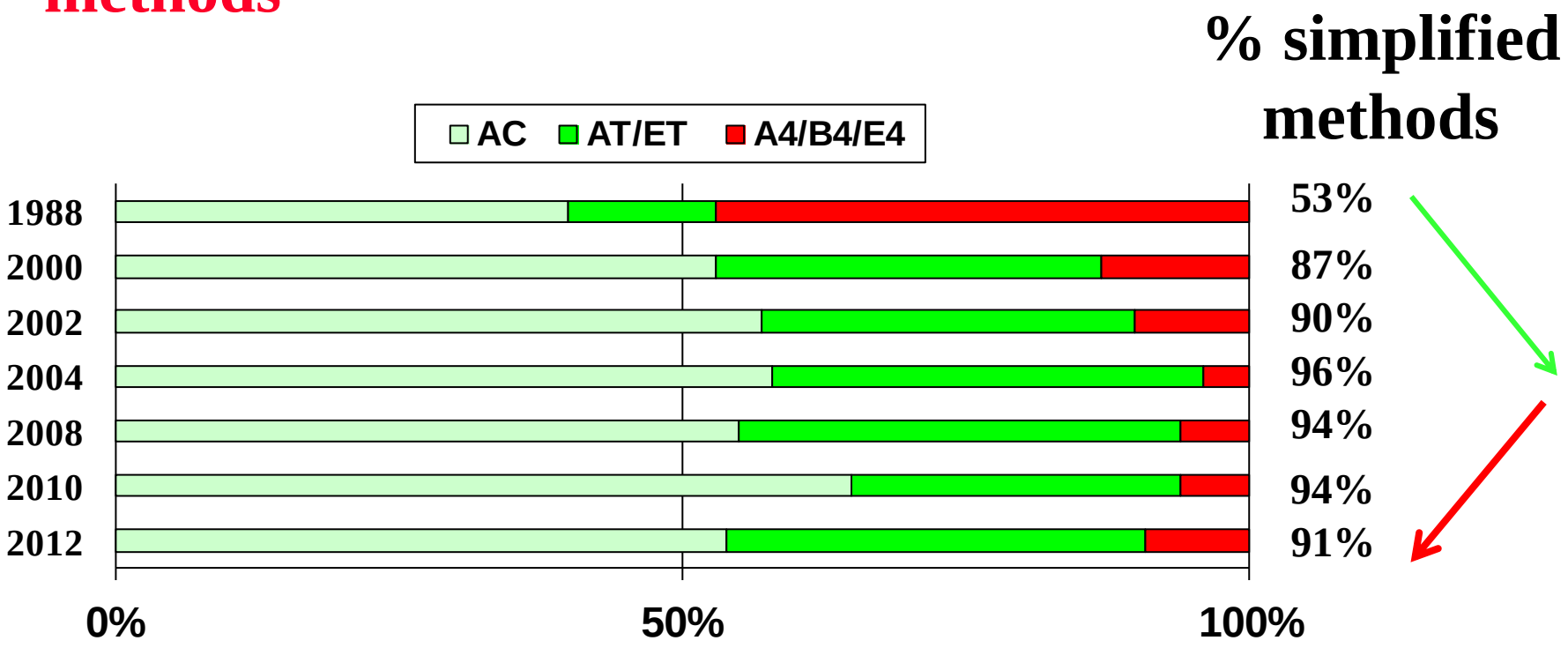


Methods and recording intervals (ICAR Cork 2012)

Countries	A4	E	AT	AC
Greece	100%			
Portugal	100%			
Germany	51%	42%	7%	
Czech Rep.		Part (ET)	Part	
Belgium			100%	
Croatia			100%	
Slovenia			100%	
Italy			Part	Part
Spain Churra/Manchega/Lacaune/Assaf Latxa & Karranz. Canaria/Colmarena	 100 %(A4-A6)		 100% Part (50%)	 Part (50%)
France				100%
Slovak Rep.				100%

Simplification of Milk recording

Milk yield : use in stagnation of simplified (AT or AC) methods



Objective has been reached
… but could be better

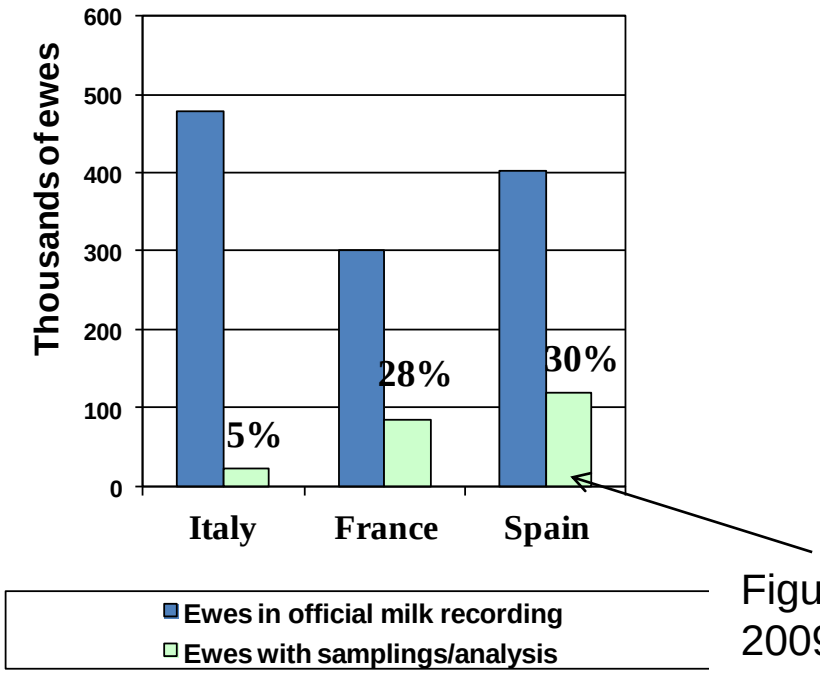
Methods and recording intervals (ICAR Cork 2012)

Simplified methods : 9/11 countries

A4	**Greece, Portugal, Germany (50%), Spain(small breeds)**
E	**Germany (>40%), Czech (part)**
AT	**Belgium, Slovenia, Croatia, Czech (part), Germany (<10%)**
AT & AC	**Italy, Spain**
AC	**France, Slovak**

Simplification of Milk quality recording
(ICAR Cork 2012)

Italy, France & Spain represent **89.5% of all the recorded dairy sheep** in ICAR member countries



Figures 2009 for Spain

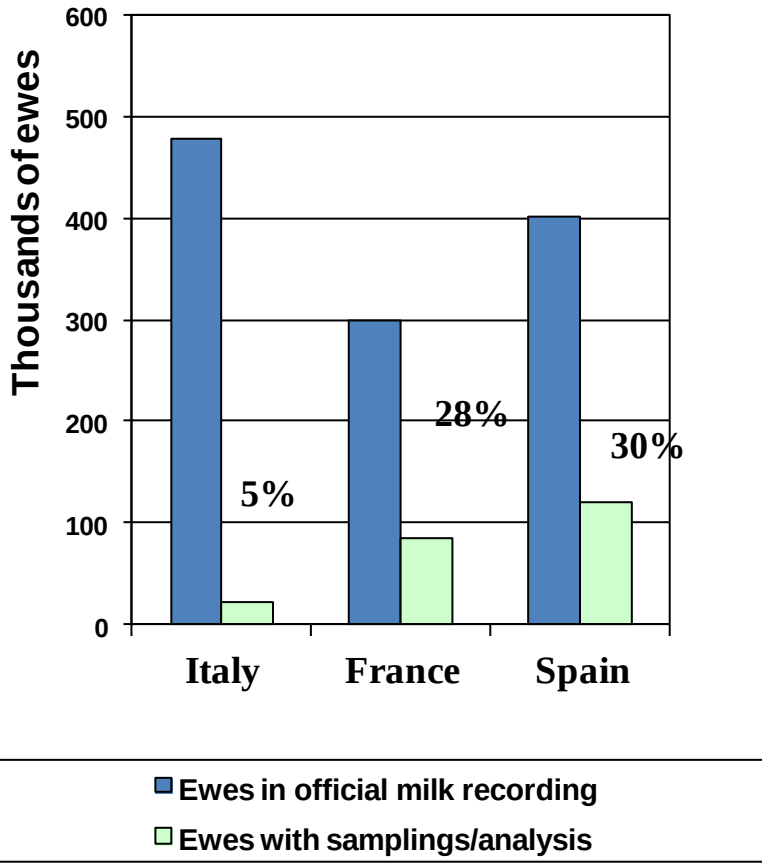
HIGH COST OF RECORDING IN SHEEP …

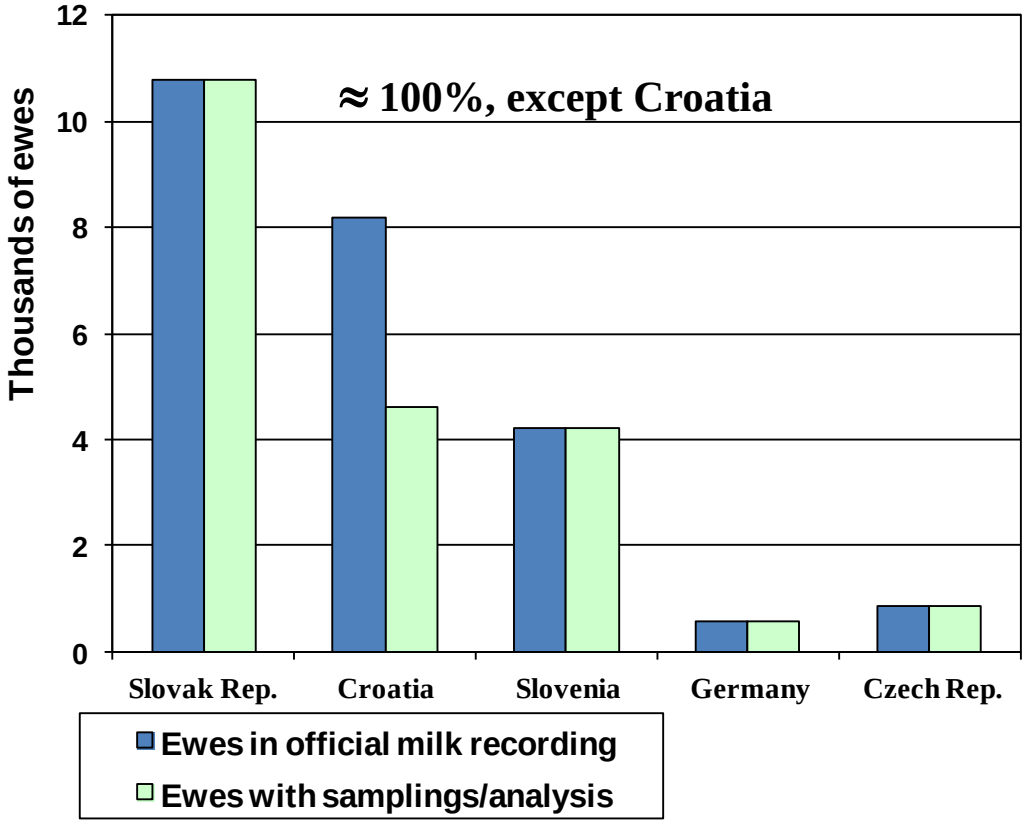
… SIMPLIFIED STRATEGIES OF RECORDING

- About one fifth of the recorded ewes are submitted to qualitative recording
- In France, only half the test-days are sampled (3/6 per ewe)

- **Relevant for genetic purposes**
- **But not compatible with a too low accuracy of measures**

Part of the ewes in official milk recording submitted to qualitative recording (ICAR Cork 2012)

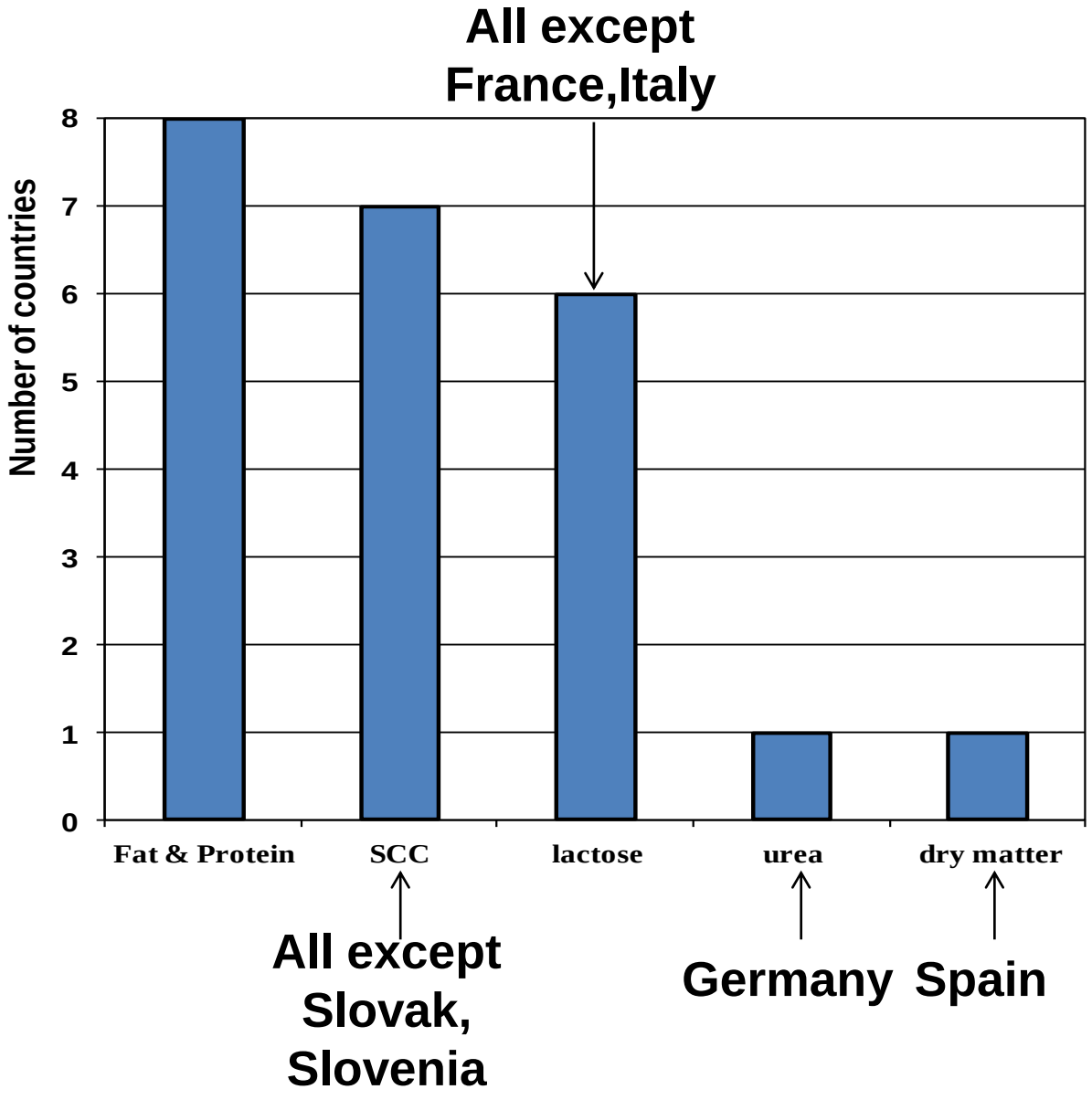




Part-lactation sampling : France, Italy, Slovak Rep.

Type of analysis done by countries

(ICAR Cork 2012)



Type of analysis done by countries

(ICAR Cork 2012)

Countries	F	P	Lactose	SCC	Urea	Dry matter
Slovenia	X	X	X			
Slovak	X	X	X			
Germany	X	X	X	X	X	
France	X	X		X		
Czech	X	X	X	X		
Croatia	X	X	X	X		
Greece	No analysis					
Italy (Sarda)	X	X		X		
Portugal	No analysis					
Spain						
Latxa/Karranzana	X	X	X	X		X
Manchega	X	X		X		X
Churra/Castellana	X	X	X	X		
Lacaune	X	X		X		

Method used and number of ewes sampled

(ICAR Cork 2012)

Countries [2011]	Categories of ewes	Number of ewes	Method
Greece & Portugal	No qualitative recording		
Germany		563	**A4,B4,AT4,E4**
Czech			**AT,E**
Croatia		4,646	**AT**
Slovenia	All ewes		**AT**
Spain Latxa Canaria/Colmarena Other			 **AC** **A6** **AT**
Slovak	Parity 1 to 3	10,827	**AC**
Italy (Sarda)	Parity 1	22,061	**Part-lactation sampling**
France Pyrenean breeds Lacaune breed	 Parity 1 Parity 1 & 2	 19,904 64,259	 **Part-lactation sampling**

Breeding schemes and selection criteria

(ICAR Cork 2012)

FRANCE - 2011

	Number of AI progeny-tested rams (2011)	AI (2010) Fresh	Year of starting	Selection criteria
Lacaune	531	406,027	1968	(FY+PY+1/16F%+1/8P%) + 0.5 SCC + 0.5 Udder
Manech tête rousse	150	61,181	1977	FY+PY+F%+P%
Manech tête noire	30	7,979	1977	FY+PY+F%+P%
Basco-Béarnaise	50	15,018	1977	FY+PY+F%+P%
Corse	31	6,853	1992	MY

+ PrP : selection on scrapie resistance

Breeding schemes and selection criteria

(ICAR Cork 2012)

SPAIN - 2011

	Number of AI progeny-tested rams (2011)	AI (2011) Fresh (frozen)	Selection criteria
Latxa blond-faced	33	11,284	MY, F%, P%, udder
Latxa black-faced	42	14,828	
Karranzana	0	197	
Manchega	232	33,195	MY
Castellana	4	766	MY
Churra	50	8,228 (frozen : 1,747)	MY, P%, udder, morphology
Lacaune	0	4,692	
Assaf (figures 2008)	60	6,488 (frozen : 160)	

+ PrP : selection on scrapie resistance

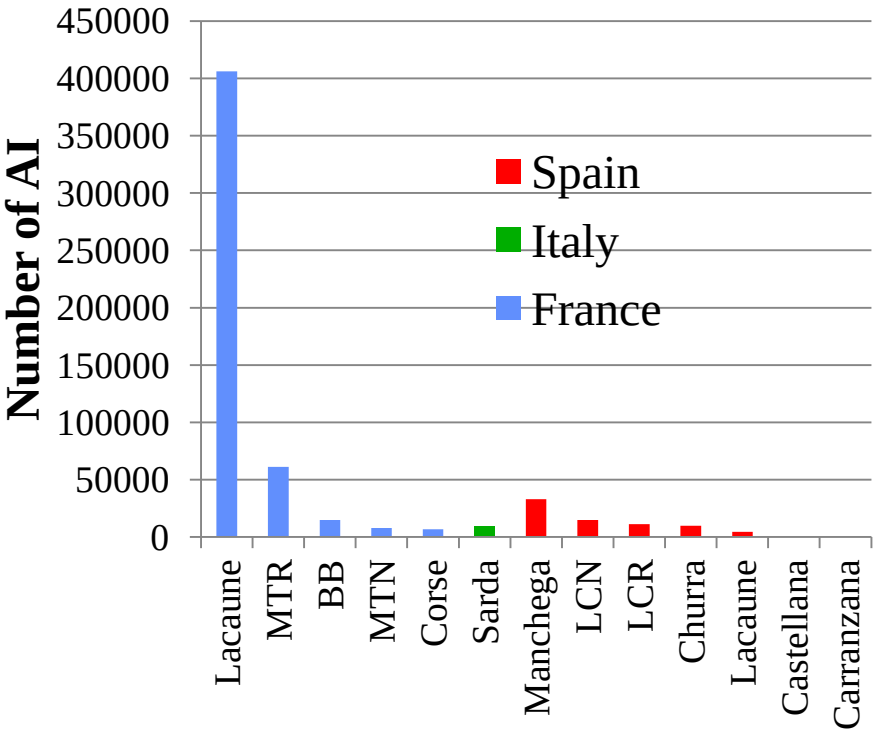
Breeding schemes and selection criteria
(ICAR Cork 2012)

ITALY

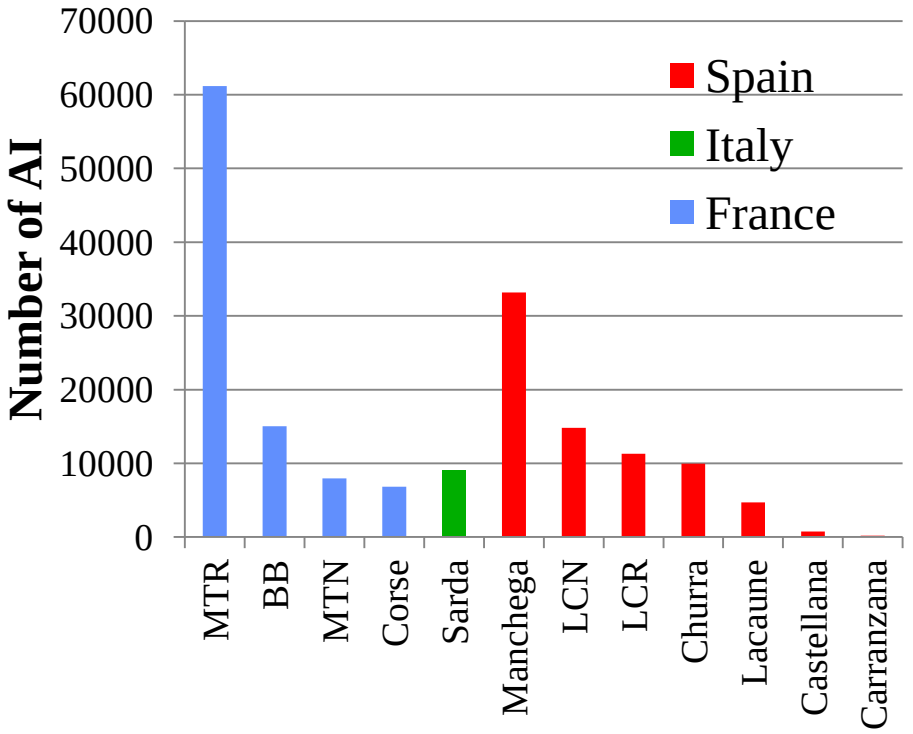
	Number of AI progeny-tested rams	AI (2011) Fresh	Year of starting	Selection criteria
Sarda (IT)	60 (figure 2009)	9,000	1986	MY, udder

+ PrP : selection on scrapie resistance

Number of AI (ICAR Cork 2012)



With Lacaune



Without Lacaune

587,643 AI on the whole

Milk yield : type of lactation calculation (ICAR Cork 2012)

Countries	Lactation calculation	Production of reference
Italy	**TSMM**,**TMM**	**TMM**
Germany	**TMY**	**TMY** (150)
Slovak Rep.	**TMM**	**TMM** (150)
France	**TMM**	
Greece	**TMM**	**TMM**
Portugal	**TSMM**	**TSMM** (150)
Slovenia	**TSMM**,**TMM**,**TMY**	
Croatia	**TSMM**,**TMM**	

Milk yield : type of lactation calculation (ICAR Cork 2012)

Countries	Lactation calculation	Production of reference
Spain		
Churra	**TSMM**, **TMM**	**TSMM** (120), **TMM** (120)
Manchega	**TSMM**, **TMM**	**TSMM** (120), **TMM** (120)
Latxa/Karr.	**TSMM**, **TMM**	**TSMM** (120), **TMM** (120)
Lacaune	**TMY**	**TMY** (120)
Castellana	**TSMM**	
Canaria	**TSMM**	**TSMM** (150 [L1] – 210 [L2+]
Commenarena/ Rubia del Molar	**TMM**	**TMM** (120)
Merina de Grazalema	**TMM**	**TMM** (156)

Milk yield : results for some population (ICAR Cork 2012)

Countries [2011]	Average MY per recorded ewe in liters (length in days) [a = TMY / b = TMM / c = TSMM / ref = reference length in days]		
	Yearlings	Adults	All ewes
CROATIA	[b]	[b]	[b]
East Friesian	173	203	196
Istrian Pramenka	126	129	127
Paška	83	100	100
CZECH REP.			[?]
East Friesian			346
GERMANY			[a]
East Friesian			312 (ref :150)
FRANCE	[b]	[b]	[b]
Lacaune	235 (145)	309 (171)	290 (165)
Manech tête rousse	165 (135)	211 (163)	204 (158)
Basco-Béarnaise	133 (106)	186 (155)	177 (146)
Manech tête noire	97 (94)	156 (145)	151 (140)
Corse	92 (129)	146 (194)	137 (184)

Milk yield : results for some population (ICAR Cork 2012)

Countries [2011]	Average MY per recorded ewe in liters (length in days) [a = TMY / b = TMM / c = TSMM / ref = reference length in days]		
	Yearlings	Adults	All ewes
SLOVAK REP.			[b]
East Friesian			222
Lacaune			209
Hybrids			175
Improved Valachian			123
Tsigai			112
Valachian			94
GREECE			[b]
Frisarta			243
Lesvos			162
Chios			145
Sfakion			145
Agriniou			141
Karagouniki			136
Katsika			132

Milk yield : results for some population (ICAR Cork 2012)

Countries [2011]	Average MY per recorded ewe in liters (length in days) [a = TMY / b = TMM / c = TSMM / ref = reference length in days]		
	Yearlings	Adults	All ewes
ITALIA	[b]	[b]	[b]
Sarda	141	207	199
Lacaune	154	201	198
Valle de Belice	115	197	192
Barbaresca	97	159	158
Comisana	95	160	157
Nera di Arbus	100	169	153
Moscia Leccese	92	143	141
Pinzirita	84	141	140
Langhe	103	137	134
Frisona	98	146	132
Massese	112	129	128
Brigasca	72	85	84
Altamurana	27	63	62

Since 2009 : TMM / ref

Milk yield : results for some population (ICAR Cork 2012)

Countries [2011]	Average MY per recorded ewe in liters (length in days) [a = TMY / b = TMM / c = TSMM / ref = reference length in days]		
	Yearlings	Adults	All ewes
SLOVENIA			[b]
Improved Bovec			226
Bovec			164
Istrian Pramenka			83
PORTUGAL			
Serra de Estrela	147 [b]	202 [b]	174 [c]
Saloia	94 [c]	102 [c]	101 [c]
Churra Terra Quente	78 [c]	78 [c]	78 [c]

Milk yield : results for some population (ICAR Cork 2012)

Countries [2011]	Average MY per recorded ewe in liters (length in days) [a = TMY / b = TMM / c = TSMM / ref = reference length in days]		
	Yearlings	Adults	All ewes
SPAIN			
Churra	122 [c] (ref : 120)	129 [c] (ref : 120)	128 [c] (ref : 120)
Latxa blond-faced	161 [c] (ref : 120)	167 [c] (ref : 120)	165 [c] (ref : 120)
Latxa black-faced	135 [c] (ref : 120)	165 [c] (ref : 120)	160 [c] (ref : 120)
Karranzana	181 [c] (ref : 120)	190 [c] (ref : 120)	
Manchega	180 [c]	192 [c]	186 [c]
Assaf (figure 2009)	370 [c]	420 [c]	400 [c]
Lacaune	308 [b]	315 [b]	312 [b]
Merina de Grazalema	61 [b] (ref : 156)	120 [b] (ref : 156)	118 [b] (ref : 156)
Colmenarena	71 [b] (ref : 120)	77 [b] (ref : 120)	75 [b] (ref : 120)
Rubia del Molar	84 [b] (ref : 120)	93 [b] (ref : 120)	89 [b] (ref : 120)
Canaria	125 [c] (ref : 150)	116 [c] (ref : 150)	121 [c] (ref : 150)
Castallana	78 [c]	116 [c]	97 [c]

Milk recording equipment (ICAR Cork 2012)

Countries [2011]	JARS	MILK METERS
CROATIA	Cartel Germany (Vol, No sampler, 34 in use)	
FRANCE	Gély (ex. Dintilhac (Vol, Sampler, 3,000 in use)	
GERMANY		Tru-Test (Weight)
GREECE		Hector, Flaco, Valko, Nicolini, Fullwood, Franco, OMC, Albino, Strangko, Westfalia, Milk Line, Milkplan, Interplus, DeLaval, Manovak (Vol, Sampler)
PORTUGAL	(Vol, sampler)	
SLOVAK REP.	Fisher Slovakia (vol, 37 in use)	Berango (Vol., no sampler, 199 in use) Milkovis (Vol., no sampler, 143 in use)
SLOVENIA	(Vol, Sampler, 2)	Tru-Test, Girotech (Weight, Sampler, 45 in use)

Milk recording equipment (ICAR Cork 2012)

Countries [2011]	JARS	MILK METERS
ITALY (?)	Alfa Laval Mibo Royal Westfalia Separator Misurator e Italiana (all Vol, NS)	Tru-Test mod. H.I. (Weight, S, 11 in use)
SPAIN		Berango (Vol, Sampler, 1107 in use). Philips (Weight, Sampler, 6 in use). Tru-Test (Weight, Sampler, 72 in use) DeLaval (Weight, Sampler, 392 in use). Afikim (Weight, Sampler, 48 in use). Westfalia (Weight, Sampler, 144 in use). DeLaval, Westfalia (Vol, Sampler, electronic, 948 in use). MIBO (Vol, Sampler, 332 in use).

Churra : Berango / *Latxa* : MIBO / *Manchega* : DeLaval & Westfalia

Molecular information (ICAR Cork 2012)

Countries [2011]	FILIATION TEST	PRP GENOTYPING	OTHER
FRANCE	1,047 animals progeny-tested + some ewes	21,427 analysis	SNP genotyping (about 6,800) for experimental genomic selection
ITALY	?	17,969 analysis	SNP genotyping for experimental genomic selection
SLOVAK REP.		2,470 analysis	
SLOVENIA		2,135 analysis (287 flocks)	
SPAIN ??	15,057 animals	38,508 analysis (631 flocks)	

Molecular information (ICAR Cork 2012)

Countries [2011]	FILIATION TEST	PRP GENOTYPING	OTHER
BELGIUM (Wallonia)	-	220	
CROATIA	-	-	
CZECH REP.		Yes	
GERMANY			
PORTUGAL	Yes	-	

Recording of other traits (ICAR Cork 2012)

Countries [2011]	TRAITS REPORTED TO BE AT LEAST ON-FARM RECORDED
BELGIUM	none
CROATIA	Reproductive traits, Birth weight
CZECH REP.	Reproductive traits, Weights
FRANCE	Reproductive traits, Udder score (Lacaune only), Longevity, Cause of culling
GERMANY	Reproductive traits, Udder score, Wool quality, Appearance, Longevity, Weights
ITALY (2007)	Morphological evaluation, Udder score (Sarda)

Recording of other traits (ICAR Cork 2012)

Countries [2011]	TRAITS REPORTED TO BE AT LEAST ON-FARM RECORDED
PORTUGAL	Udder score, longevity, prolificity
SLOVAK REP.	Reproductive traits, weights
SLOVENIA	Litter size and other data on reproductive cycle, Daily gain to weaning (on-farm), daily gain to puberty (on-station)
SPAIN	Udder score, longevity, prolificity, mortality, cheese yield (Merina de Grazalema)

Agenda 4

Ask for an evolution in the questionnaire

From representative of Spain

Add data of **Protein content and Fat content** in milk recording (when recorded).

Difficulty : simplified method (eg. only in the morning, part-lactation sampling) and non representativeness of the ewes recorded (eg. parity one only)

Proposition : produce either figures from recorded ewes (if representative) or figure from the tank (for example from milk payment).

Add in table 3 : 2 columns with Fat content, Protein content

Others ? (SCC ? YES ; also lactose)

Agenda 5

Quality assurance for AC method

Background : AC recording difficult to implement in some situations (cf. A. Carta). From the Sarda case to a generalized response

1/Flocks that have a part of the ewes which are registered and another part non-registered .

2/Flocks where a part of the ewes are milked once a day wheras the other part is milked twice.

3/Preferential treatments. ERASE this point

➢Procedure both to control and elaborate an alternative AC coefficient : introducing one monthly record at the two milkings per flock-year in order to check the quality of the AC design in the flock. This approach should permit to obtain a flock coefficient (average of individual coefficients) either to be directly applied to all test dates or to check the quality of the actual AC coefficients

Quality assurance for AC method

Methodology to introduce the amendment in the guidelines

2.2.2 ICAR rules & standards

2.2.2.1 Responsibility & type of recording
2.2.2.2 Ewes to be controlled
2.2.2.3 First test-day
2.2.2.4 Frequency & number of milk recording visits
2.2.2.5 Type & expression of milk recording
2.2.2.6 Lactation calculation clauses

ADD **2.2.2.7 quality assurance regarding AC/BC method**

ALSO **Specific technical document not to be included in the guidelines, but available in the ICAR website, explaining more in detail the method**

Quality assurance for AC method

Quality assurance regarding AC method

1/3

The AC method requires the information of the whole milk of the flock produced over 24 hours to calculate the AC coefficient applicable to each ewe recorded at the recorded milking to obtain a daily production. Some situations are identified in which the AC method procedures cannot be applied without producing biases :

-flocks where a part is registered and therefore recorded, whereas the bulk milk contains the whole flock. This is particularly frequent in countries/breeds where the milk recording practice is laborious and can be supported by the farmer only for a part of the whole flock. In some situations, permitting farmers to record only a portion of their flock should allow to increase the average size of the recorded flocks (due to the fact that some large flocks would adhere to milk recording if they are allowed to record only a part of the flock). This strategy is to contribute to increase the cost-effectiveness of milk recording, by sharing costs related to the visit of one flock on a larger number of recorded ewes, but also to increase genetic progress.

Quality assurance for AC method

Quality assurance regarding AC method

2/3

-flock where a part of the ewes are milked once a day whereas the other part is milked twice a day. Once a day – milking is becoming more and more frequent in some production systems, in order to reduce labor, for example to save time for home making cheese, as well as to reduce energetic costs. Once a day milking may occur at the end of the lactation period (early summer) only for ewes that lambed in autumn whereas ewes that lambed later are still milked twice a day.

-preferential treatments. They may be a problem for both AT and AC methods in systems where controlled natural mating is realized and an important market of natural mating rams exist. In these cases, breeders involved in ram market may be lead to not milking completely a specific group of ewes (all daughters of a given ram) at the milking before the controlled one with the aim of supporting a particular ram in the genetic evaluation.

Quality assurance for AC method

Quality assurance regarding AC method

3/3

Even though such practices should not occur regarding the guidelines, a procedure of quality assurance is proposed both to control and to elaborate an alternative AC coefficient. The main features of the procedure are described below, the entire procedure being available in a document produced at the ICAR meeting held in Cork on 29 June 2012 and displayed on the ICAR website. Basically, this procedure consists in introducing one monthly record at the two milkings per flock-year in order to check the quality of the AC design in the flock. This approach should permit to obtain a flock coefficient (average of individual coefficients) either to be directly applied to all test dates or to check the quality of the actual AC coefficients.

Quality assurance for AC method

Technical document (see next 2 slides)

Proposition Antonello Carta & Sotero Salaris

Quality assurance for AC method

Procedure proposed for quality assurance regarding AC method

Note presented and approved in Cork during the meeting of the Working Group on Performance Recording of Dairy Sheep (29 May 2012)

In the Sarda breed, an experimental trial was carried out to show the reliability of the proposed method.

A dataset of 66,542 daily milk yields of 12,609 ewes recorded from November 1997 to August 1998 at 619 test-day in 87 flocks according to the A4 method

Tank data at the morning and afternoon milkings were available

TMM calculated with Fleischmann method :

- A4 and AC
- AC_M (applying a single fixed coefficient for all test-dates calculated as the average of the individual evening/morning milk yield ratios of the flock AC_M1 to AC_M5 according to the months (January to May))

Quality assurance for AC method

Procedure proposed for quality assurance regarding AC method (following)

	TMM		DIFF		CORR	
Variable	**Mean**	**SD**	**A4**	**AC**	**A4**	**AC**
A4	199	81	0.0	-4.0	1.000	0.992
AC	195	80	4.0	0.0	0.992	1.000
AC_M1	194	83	4.3	0.3	0.982	0.979
AC_M2	193	80	5.6	1.5	0.991	0.993
AC_M3	196	80	3.1	-1.0	0.992	0.995
AC_M4	202	84	-3.5	-7.6	0.989	0.992
AC_M5	204	84	-5.4	-9.4	0.990	0.993

Agenda 6

Including udder traits in the guidelines

Background :

Purpose = propose different udder appraisal tables with udder morphological traits

Informative. Not normative.

Other tables may be added by other breeds/countries

Including udder traits in the guidelines

Methodology to make the guidelines evolve

2.2.3 ICAR guidelines on optional records

2.2.3.1 Qualitative tests or tests on the milk's chemical composition in official method A, B, C or E

ADD (insert)

2.2.3.2 Recording of udder morphology

2.2.2.3 Other types of testing in official method A, B, C or E

2.2.2.5 Method D

Including udder traits in the guidelines

Recording of udder morphology 1/7

Among the functional traits whose interest is growing with the global purpose of reducing the costs of production, the traits related with udder health and udder morphology are more and more recorded. Whereas somatic cell count is a standard indicator for udder health, the scoring of udder morphology takes different forms according to the breeds and the countries. This chapter aims at *(i)* proposing different traits that may be scored, according to the specificity of each breed, *(ii)* listing references for genetic parameters, especially regarding the relationship between milk traits and udder traits. There is no recommendation, because there is at this stage no need of harmonization.

This chapter widely uses results presented at the workshop “udder recording comparison between teams, which was held in Leon, Spain (27-29 May 2002) in the framework of the EU contract QLK5-2000-00656 “Genesheepsafety”.

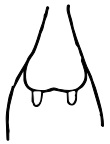
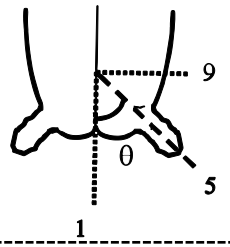
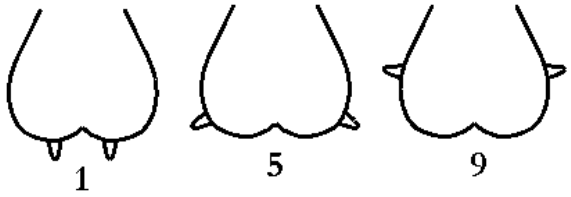
As in cattle (section 5.1 of the guidelines), linear traits are scored individually, the scores covering a biological range. They describe the degree of trait, not the desirability. The recommended scale is 1-9. Udder appraisal tables contain several traits. The traits scored in at least one breed/country are the following:

1. Teat position
2. Udder depth
3. Udder attachment
4. Udder cleft
5. Teat size

Including udder traits in the guidelines

Recording of udder morphology **2/7**

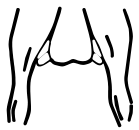
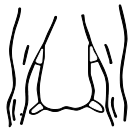
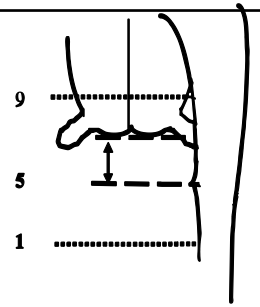
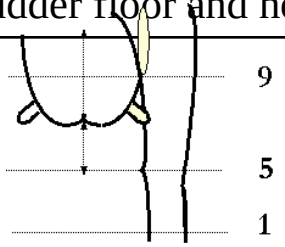
Teat position

Spanish Churra	Vertical = 9 	Horizontal = 1 
What is scored ?	Teat placement	
French Lacaune	Vertical = 1 Horizontal = 9 	
What is scored ?	Right teat angle	
Italian Sarda	At the bottom and vertical = 1 Lateral at the lower part = 5 Lateral at the higher part = 9 	
What is scored ?	Udder cistern height	

Including udder traits in the guidelines

Recording of udder morphology **3/7**

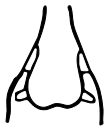
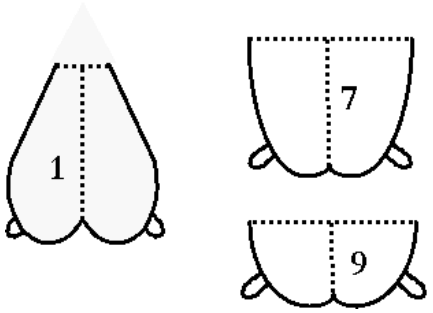
Udder depth

Spanish Churra	Shallow = 1 	Deep = 9 
What is scored ?	Udder depth respect to abdomen basis	
French Lacaune	Deep= 1 Shallow = 9 	
What is scored ?	distance between udder floor and hock	
Italian Sarda	Deep= 1 Shallow = 9 	
What is scored ?	distance between udder cleft and hock	

Including udder traits in the guidelines

Recording of udder morphology **4/7**

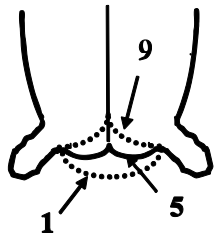
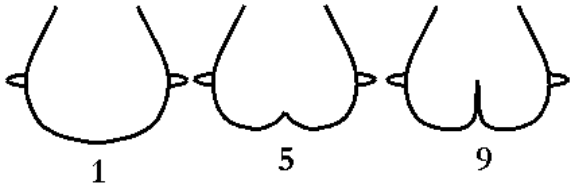
Udder attachment

Spanish Churra	Wide = 9 	Weak = 1 
What is scored ?	perimeter of insertion to the abdominal wall	
Italian Sarda	Width larger than height = 9 Width equals height = 7 Width smaller than height = 1 	
What is scored ?	ratio: udder height / attachment width	

Including udder traits in the guidelines

Recording of udder morphology 5/7

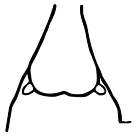
Udder cleft

French Lacaune	Missing = 1 Well marked = 9 
What is scored ?	furrow
Italian Sarda	Missing = 1 Average = 5 Well marked = 9 
What is scored ?	Udder separation

Including udder traits in the guidelines

Recording of udder morphology **6/7**

Teat size

Spanish Churra	Short = 1 	Long = 9 
What is scored ?	Teat size	

The traits described above and the corresponding tables (list of traits included in udder appraisal) might be updated either by other breeds/countries implementing udder morphology recording, or by the above breeds/countries if their traits or table evolve. Please inform the chairman of the working group on dairy sheep to make the list of traits / table update if necessary.

Including udder traits in the guidelines

Recording of udder morphology 7/7

References about genetic parameters of the traits estimated in the countries where the tables described above are used.

Barillet F., Astruc J.M., Lagriffoul G., 2007. Taking into account functional traits in dairy sheep breeding programs through the French example. EAAP publication No.121, 2007. Proceedings of the 35th Biennial Session of ICAR, 6-10 June 2006, Kuopio, Finland.

Casu Sara, Pernazza I., and Carta A.. 2006. Feasibility of a Linear Scoring Method of Udder Morphology for the Selection Scheme of Sardinian Sheep. J. Dairy Sci. 89:2200–2209.

Fernandez G., Baro J.A., de la Fuente L.F., San Primitivo F., 1997. Genetic parameters for linear udder traits fort dairy ewes. J. Dairy Sci. 80, 601-605.

Marie-Etancelin C., Astruc J.M., Porte D., Larroque H., Robert-Granié C., 2005. Multiple-trait genetic parameters and genetic evaluation of udder-type traits in Lacaune dairy ewes. Livestock Production Science 97 (2005) 211-218.

Agenda 7

MISCELLANEOUS

E-mail from Elisha Gootwine (17 May 2012)

"However, I would like to raise an issue for discussion which is so far not addressed properly in our guidelines (at least in my mind). This is **automated milk recording**. Several companies (SCR, Afimilk and others) distribute **devices and systems that automatically daily collect milk record, validate the records, store the records and perform calculations for milk quantity and quality**.
Here we are not dealing any more with periodical sampling (A4, A5, A6, for example), but with accumulating all daily records. It is not the organization (A) or the farmer(B) that control the milk recording. Actually, the companies control the whole process through the electronic devices and the programs the supply.
So, we need a **new definitions for a system where milk recording is done every day and every milking session in a day**.
If it is possible, please **address this topic in the discussions**."