

# LEVEL, QUALITY, PROFITABILITY AND SUSTAINABILITY OF THE MILK PRODUCTION OF SMALL RUMINANTS

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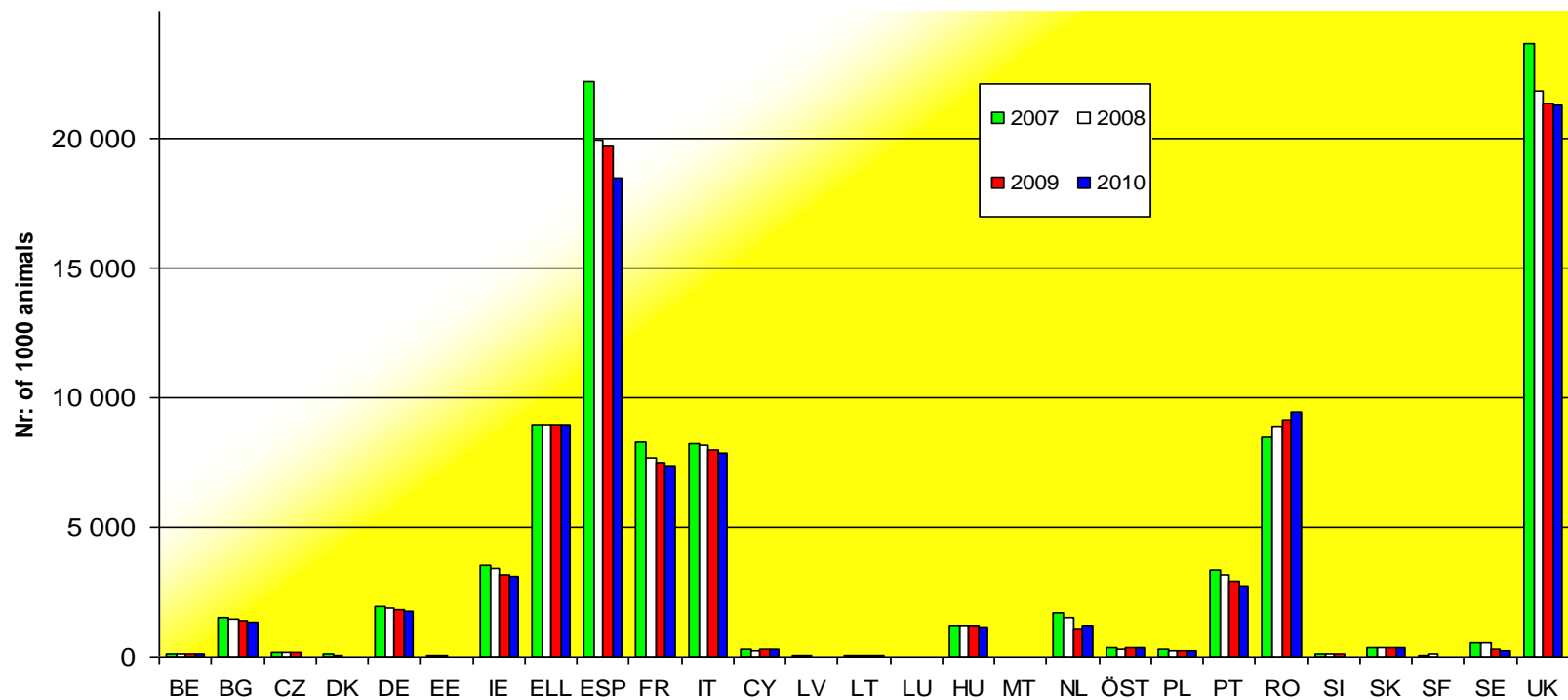
63<sup>rd</sup> Annual Meeting of EAAP  
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# SIZE OF SMALL RUMINANT SECTORS

## EUROPEAN UNION

### Evolution of the Sheep herd

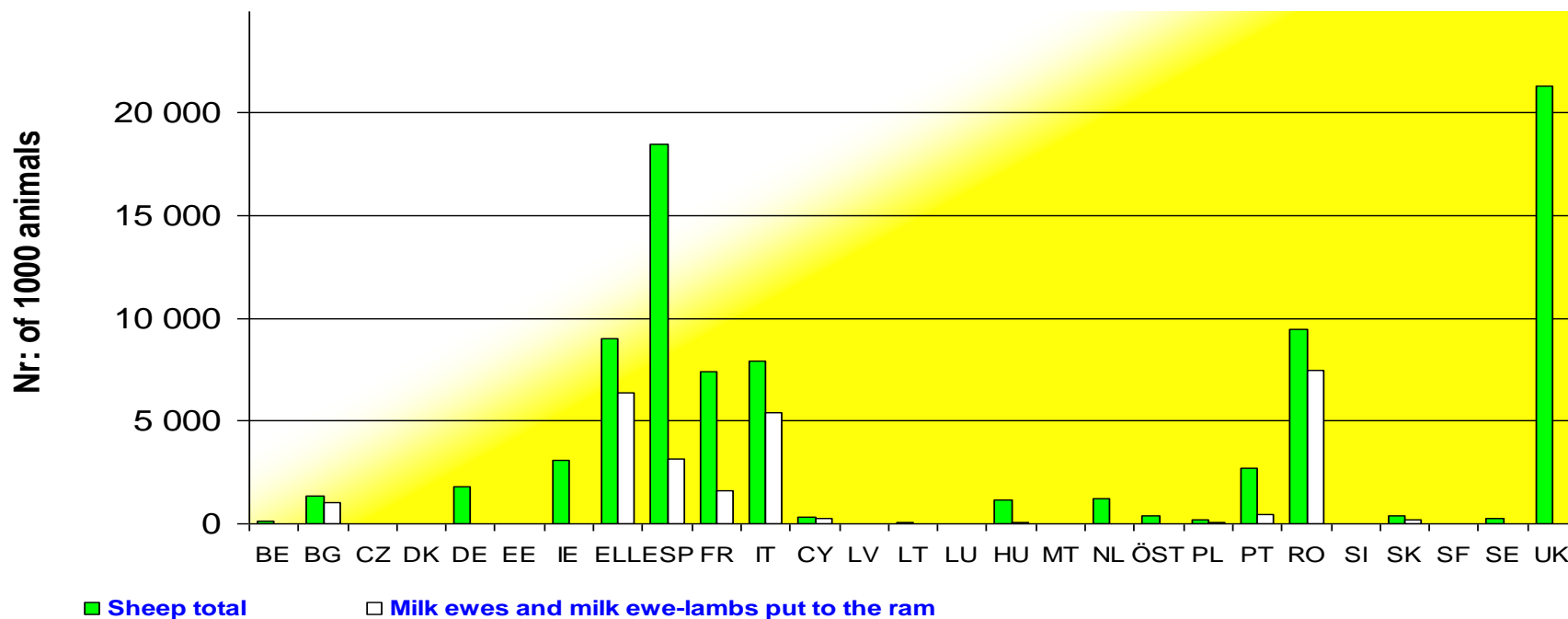
Nov/ Dec Survey (20 MSs )



# SIZE OF SMALL RUMINANT SECTORS

## EUROPEAN UNION

**Evolution of the Sheep herd**  
**Share of Dairy sheep in the total flock**  
Nov/ Dec Survey 2010 (14MSs)

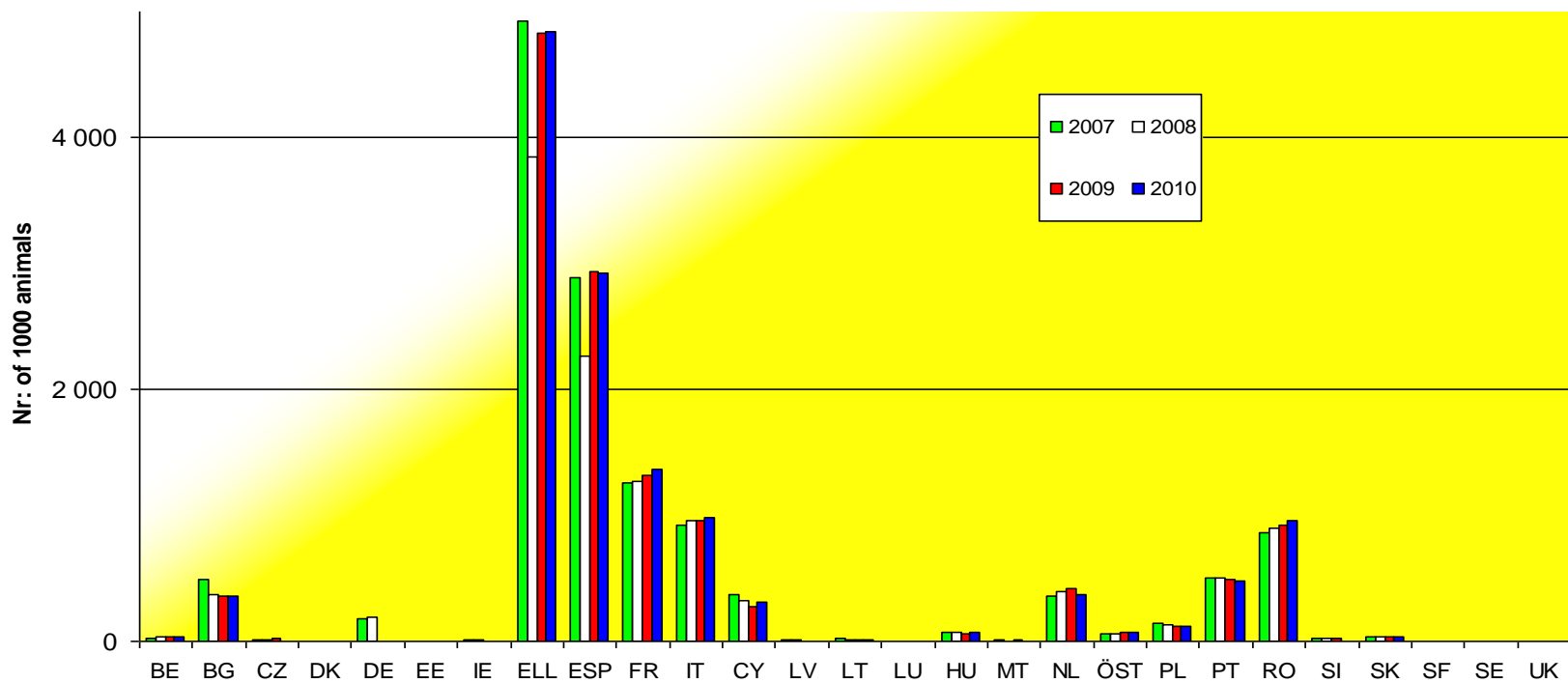


# SIZE OF SMALL RUMINANT SECTORS

## EUROPEAN UNION

### Evolution of the Goats herd

Nov/ Dec Survey (20MSs)



# SIZE OF SMALL RUMINANT SECTORS

## HUNGARY

### Sheep

Total sheep: 860 000 ewes

Milked ratio: 5-6%  45-50 thousands head

Breed: Merino, Tsigai, Milking Tsigai, British Milkshoop, Lacaune, Awassi, crossbreds

### Goat

Estimated number: 44 000 does

Monitored number: 16 000 does

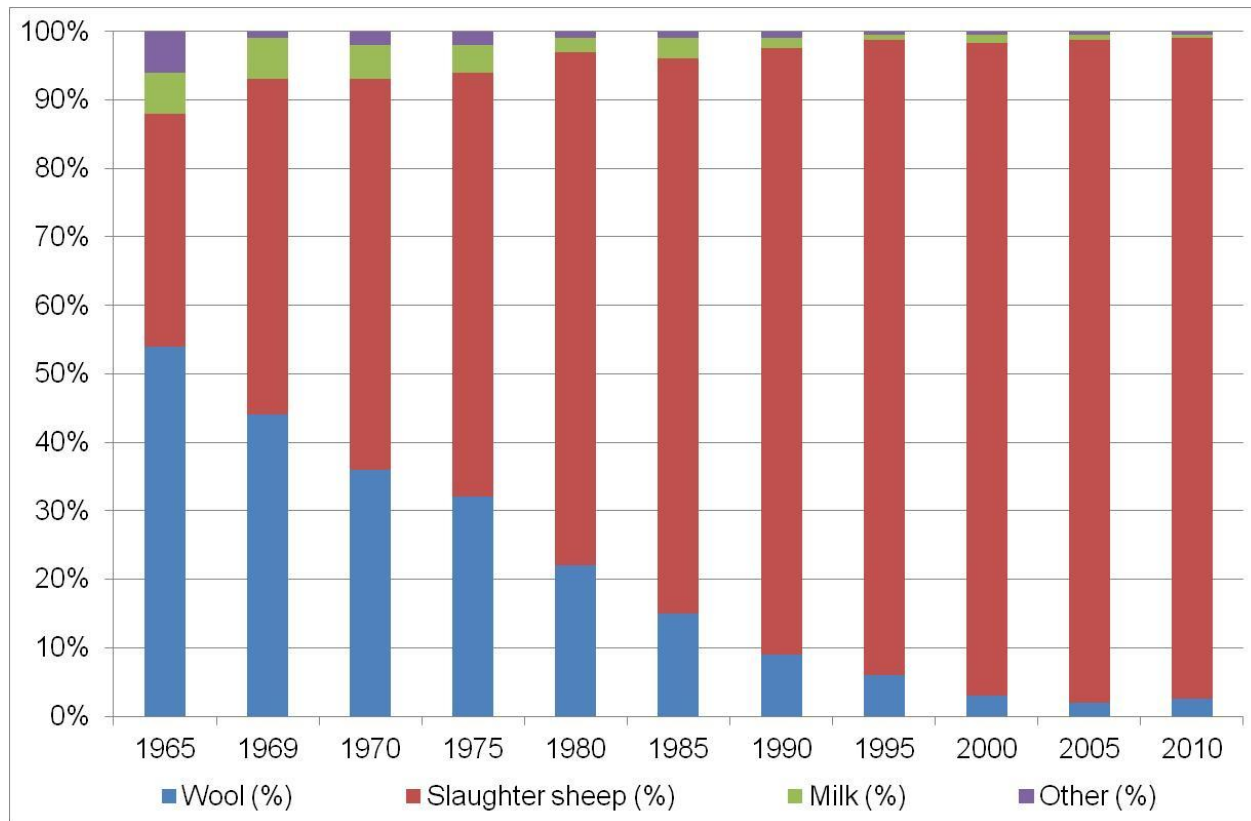
Controlled milk production: 800 000 litre/year

Total estimated milk production: 6-8 million litre

Breed: Native, Saanen, Alpine, Nubian

# INCOME RATIO

## Sheep



## Goat

milk:  75-85%

meat:  18-22%

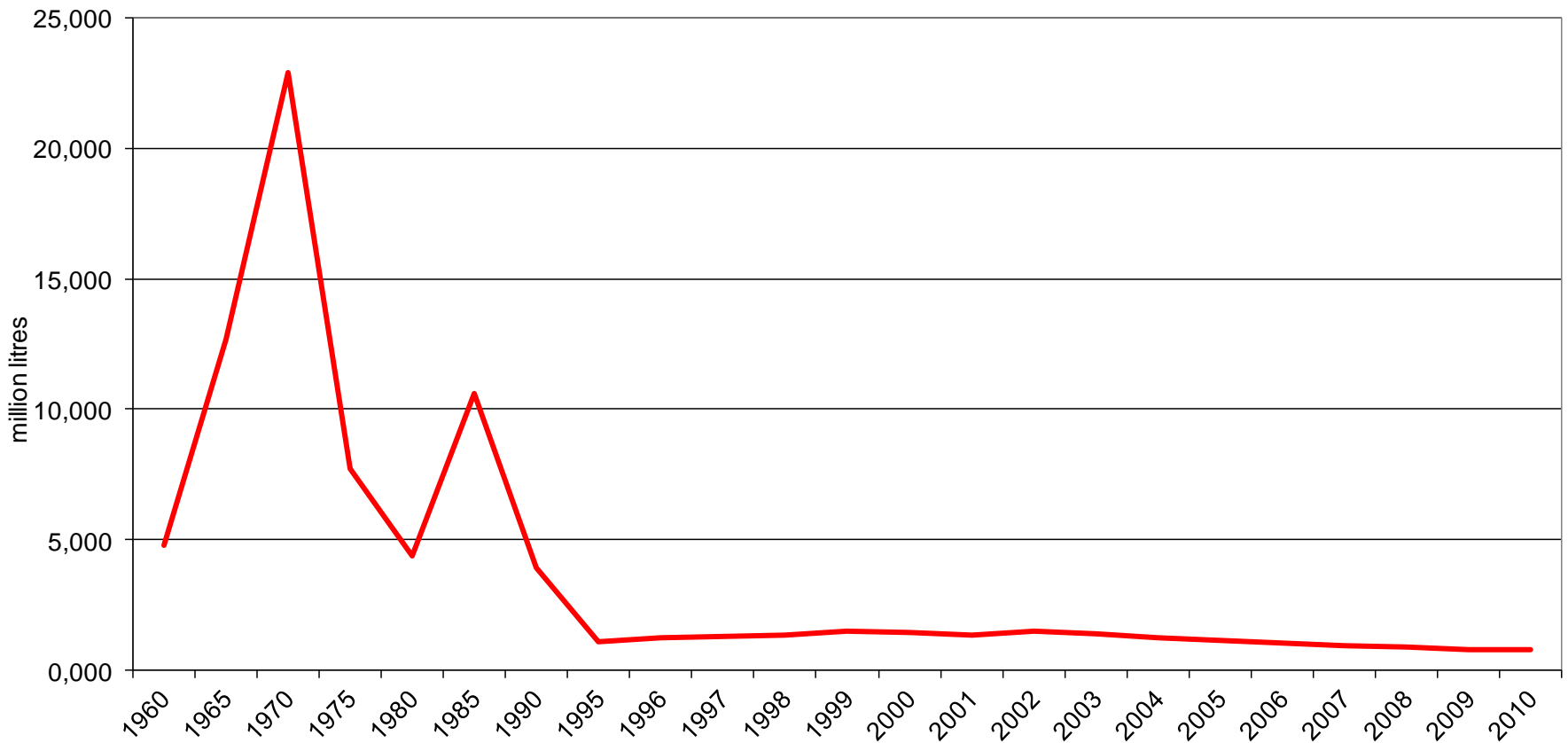
other:  2-6%

skin, manure, breeding animal

subsidy: 2-4 %

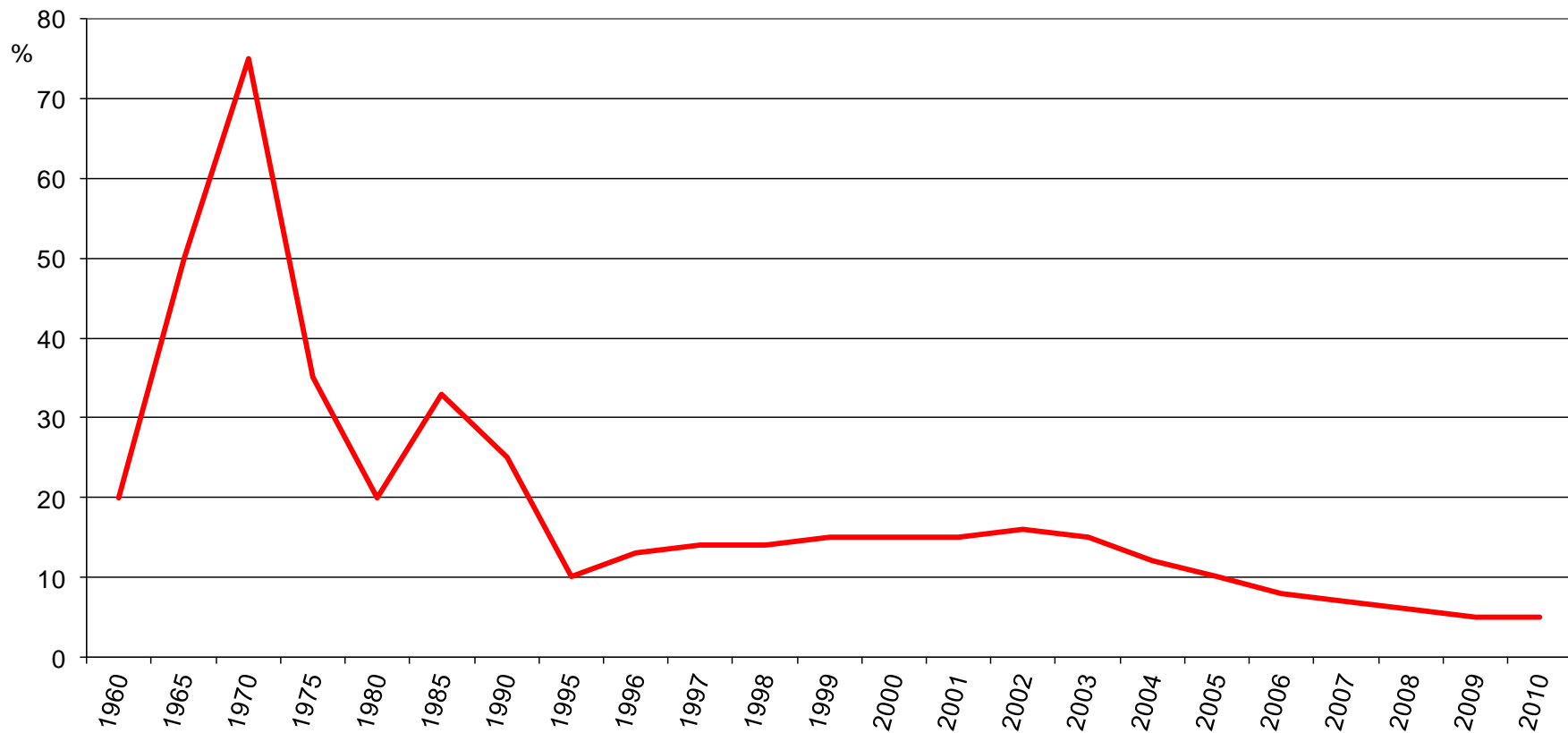
# THE SHEEP AND GOAT MILK SECTORS

## THE QUANTITY OF PROCESSED SHEEP MILK (million litres)



# THE SHEEP AND GOAT MILK SECTORS

## THE RATIO OF MILKED EWES





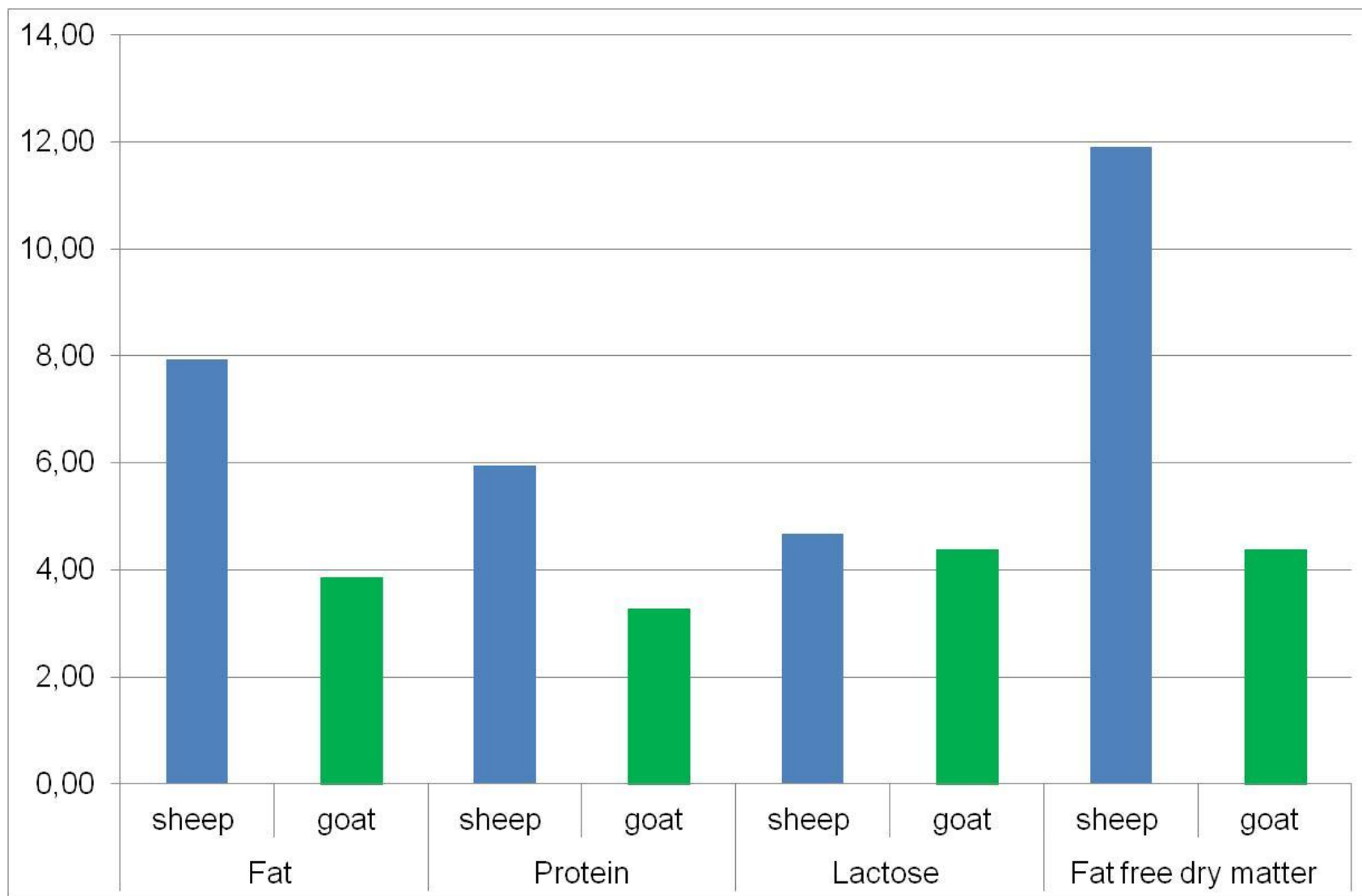
# THE SHEEP AND GOAT MILK SECTORS

## THE EFFECT OF SUBSIDY OF 1<sup>ST</sup> CLASS QUALITY MILK

	1997	1998	1999	2000	2001	2002	2003
	Sheep milk						
Frame (million litre)	2	2	2	2	2	2	1.5
Subsidy (€/litre)	0.09	0.09	0.09	0.09	0.09	0.10	0.13
Minimal price (€/litre)	0.36	0.39	0.43	0.47	0.50	0.52	0.56
Frame utilization (%)	<b>65.25</b>	<b>66.90</b>	<b>74.05</b>	<b>72.70</b>	<b>66.20</b>	<b>75.55</b>	<b>92.20</b>
	Goat milk						
Frame (million litre)	0	0	0	3	3	3	2.25
Subsidy (€/litre)				0.05	0.05	0.07	0.07
Minimal price (€/litre)				0.32	0.32	0.34	0.34
Frame utilization (%)				<b>22.70</b>	<b>42.13</b>	<b>70.10</b>	<b>95.86</b>

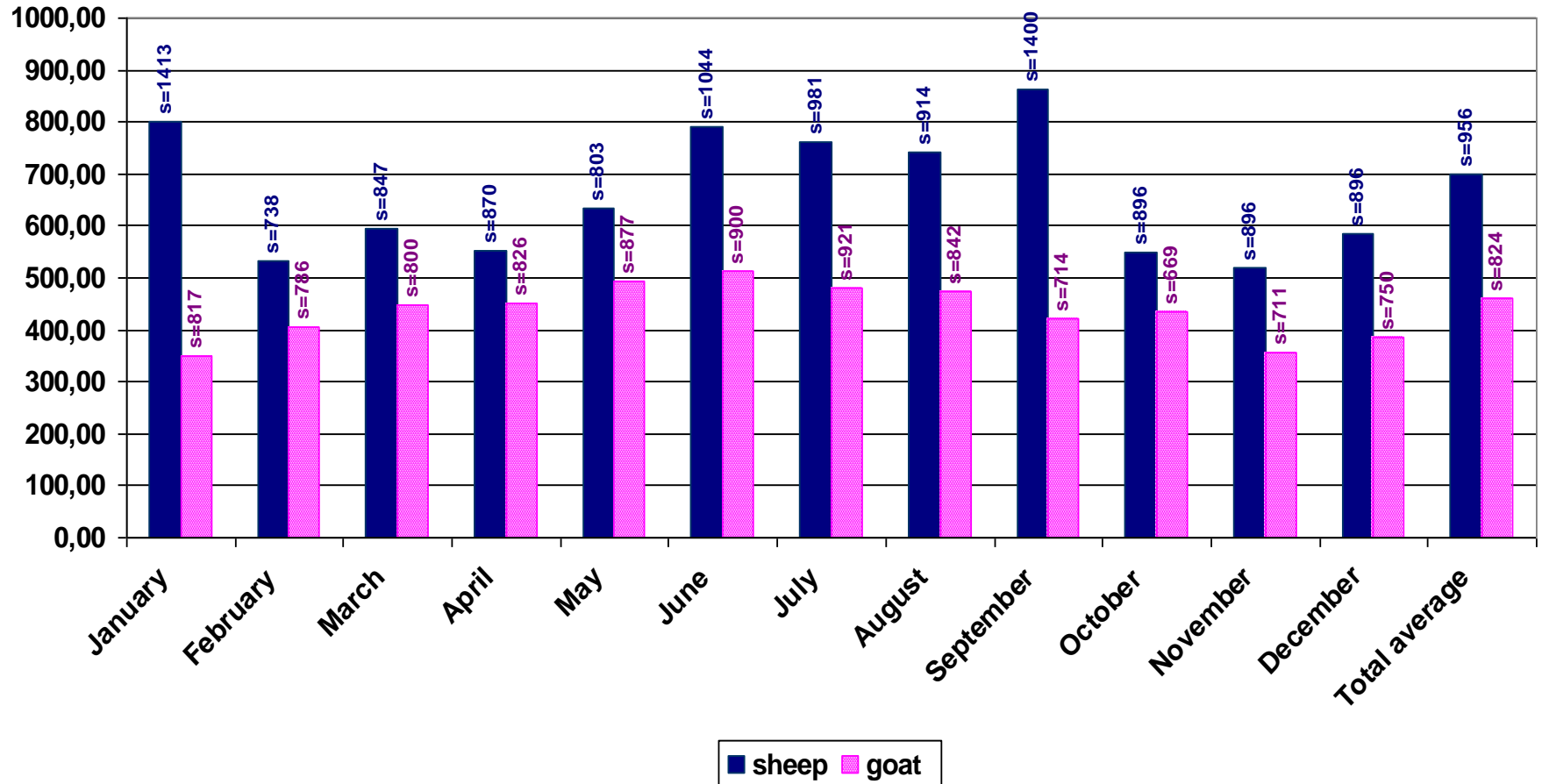
# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

AVERAGE CONTENTS (%) /2001-2010/



# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

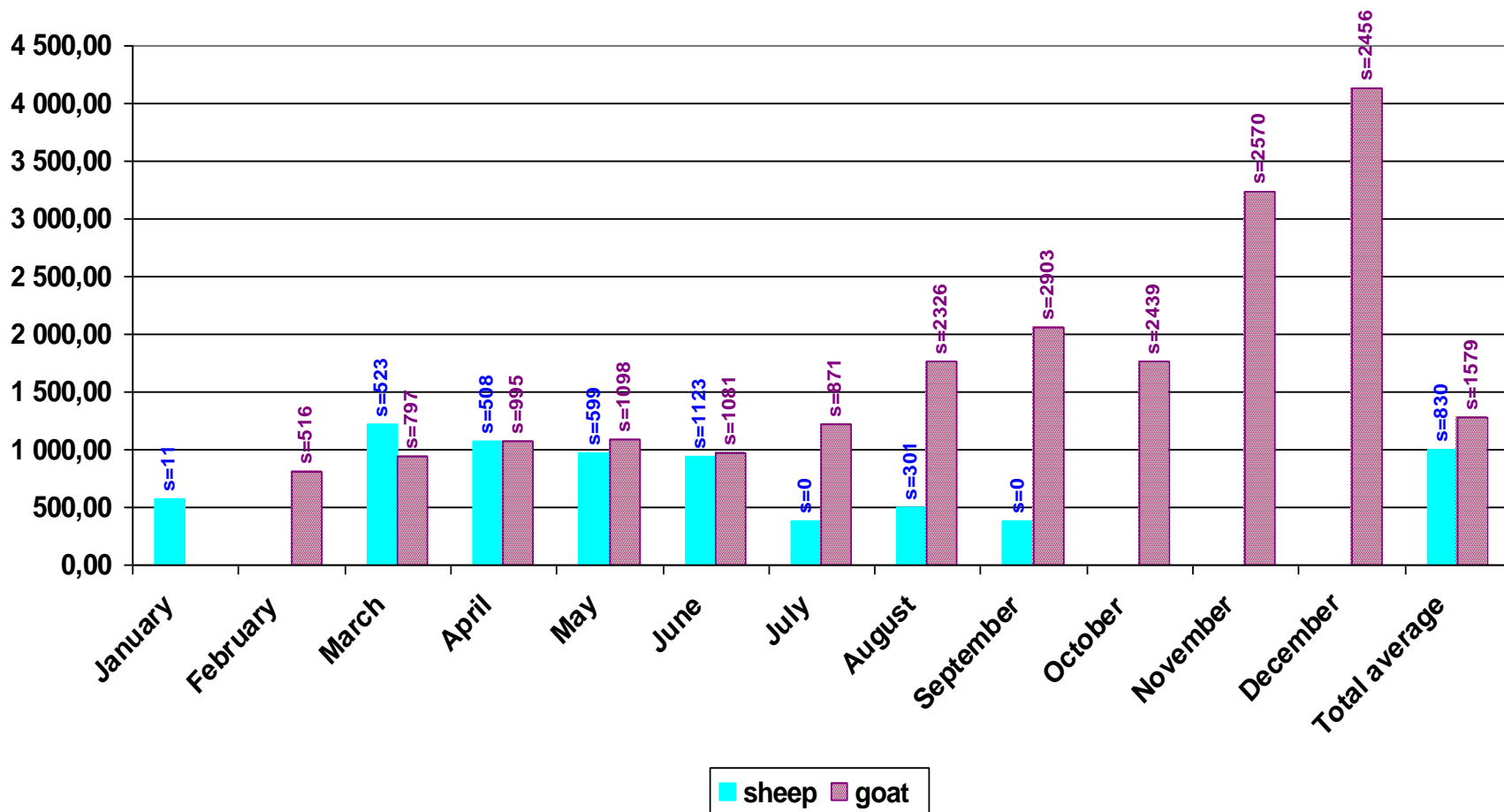
## TOTAL BACTERIAL COUNT (2001-2010)



sheep milk (n=2845)  
goat milk (n=4506)

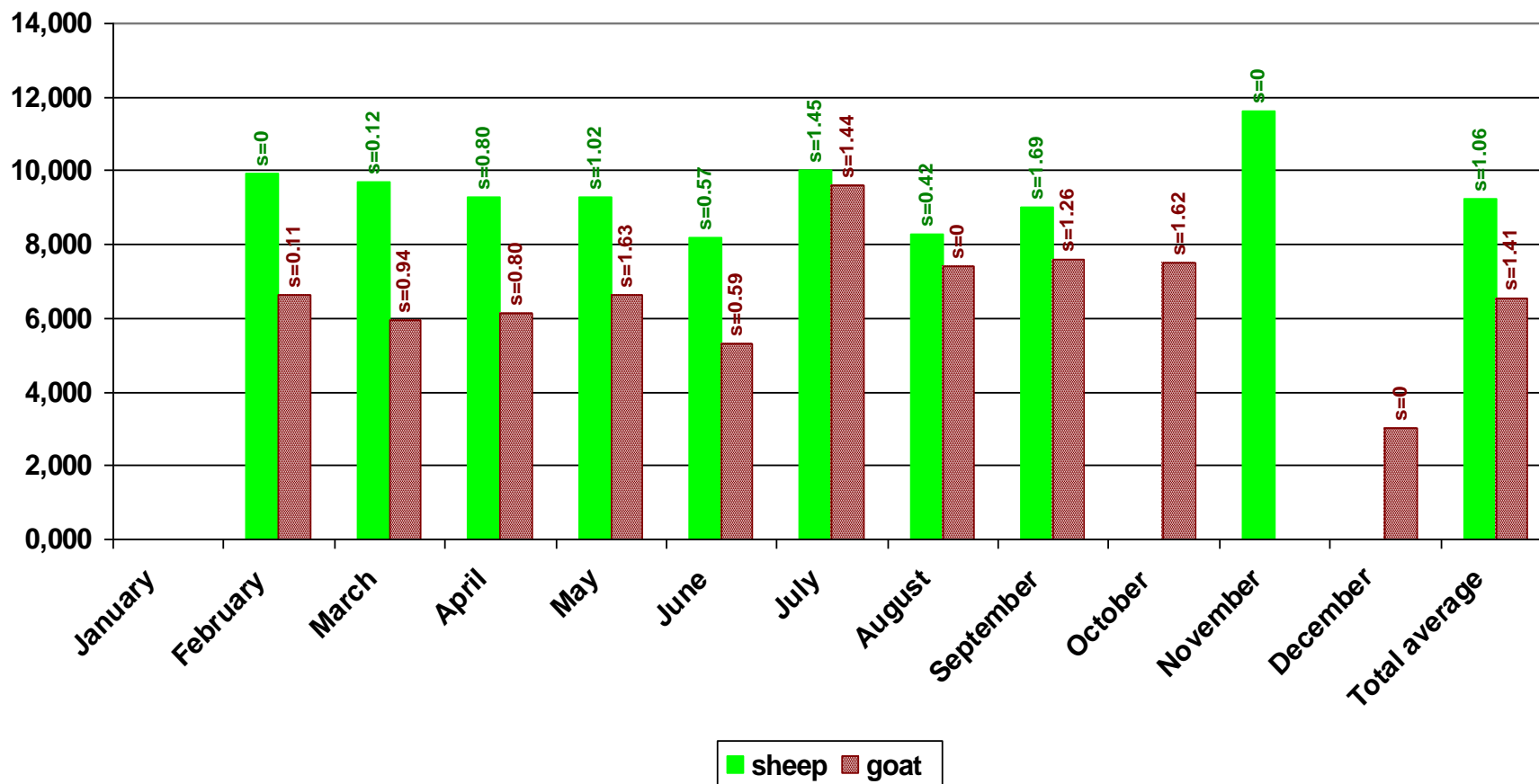
# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

## SOMATIC CELL COUNT (2001-2010)



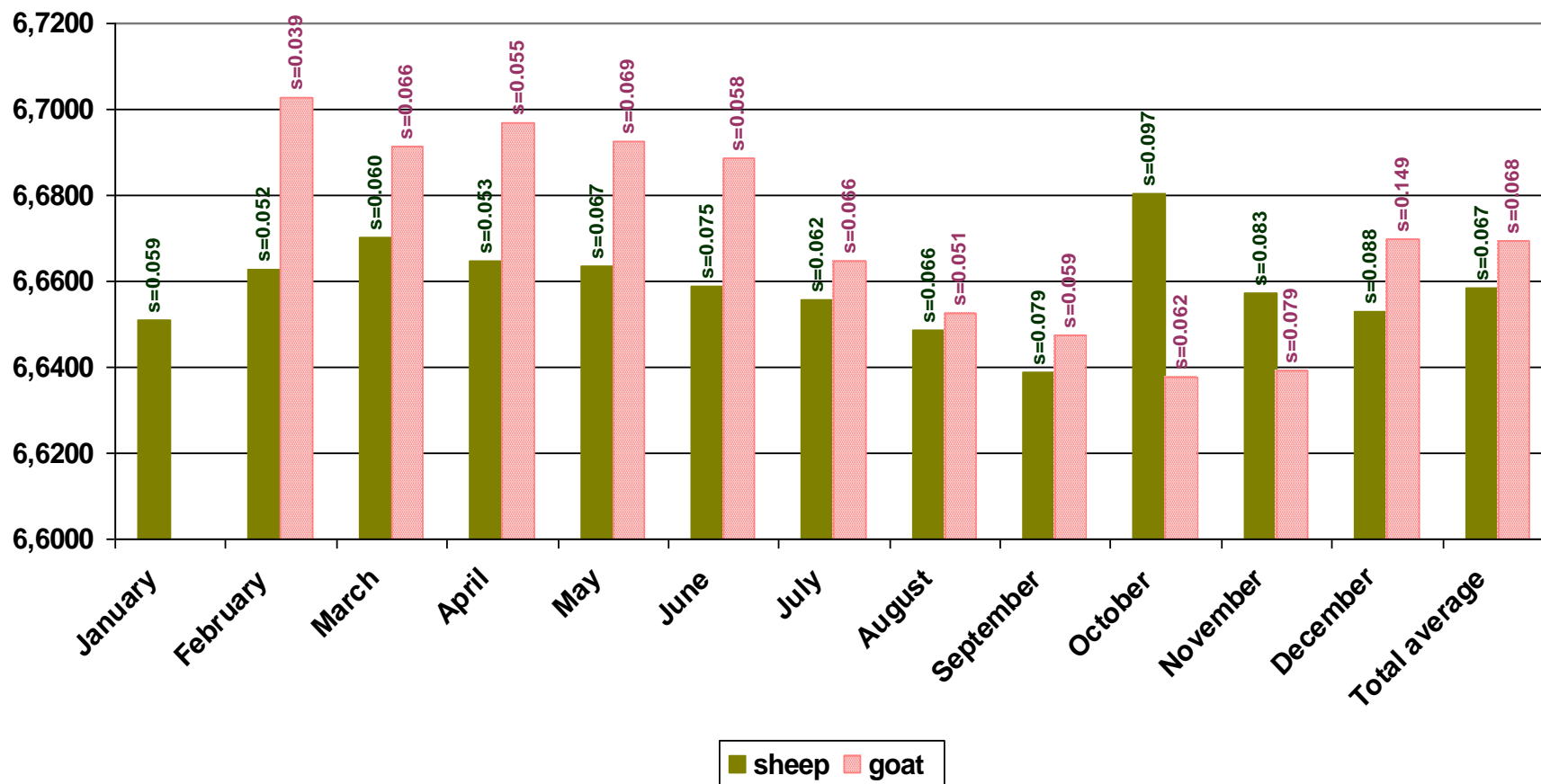
# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

## ACIDITY VALUES (SH) /2001-2010/



# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

## THE pH VALUES /2001-2010/



# THE QUALITY AND CONTENTS OF SHEEP AND GOAT MILK

## FREEZING POINT (Celsius) /2001-2010



# THE SHEEP AND GOAT MILK SECTORS

## MILK PRODUCTION IN THE LAST YEARS

### **Sheep milk**

Since 2004 persistent decreasing

In 2010 only 0.8 million litre

### **Goat milk**

Since 2004 back to the „black zone”

persistent quantity decreasing

In 2010 the controlled milk quantity: 0.8 million litre



# THE SHEEP AND GOAT MILK SECTORS

## CHANGE IN MILK PROCESSOR SECTOR

	1993	2003	2010
Sheep milk processor (n)	6	12	4 (+?)
Goat milk processor (n)	-	24	12 (+?)
Sheep milk product (n)	2 (+)	35	30
Goat milk product (n)	-	150	100
Export of sheep milk product (ton)	350	150	20
Import of sheep milk product (ton)	250	400	380
Export of goat milk product (ton)	-	25	10
Export of slaughter lamb (heads)	600 000	760 226	615 000

# THE SHEEP AND GOAT MILK SECTORS

## THE RELATIONSHIPS IN THE CASE OF SHEEP

### **The relationships of buying up prices and production levels in sheep (next slide)**

- Light blue line – the level of extensive production
- Light brown line – the level of intensive production
- Green column – the cost level in extensive production
- Pink column – level of semi intensive – intensive production
- Red column – the level gives negative income – not to be reached

# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

## FIRST COST OF MILK PRODUCED PER EWE AND SOLD MILK PER DAY

Litre/ ewe or day	First cost of milk (€/litre)							
	0.36	0.40	0.43	0.47	0.50	0.54	0.58	0.65
30	10.79	11.87	12.95	14.03	15.11	16.19	17.27	19.42
50	17.99	19.78	21.58	23.38	25.18	26.98	28.78	32.37
80	28.78	31.65	34.53	37.41	40.29	43.17	46.04	51.80
100	35.97	39.57	43.17	46.76	50.36	53.96	57.55	64.75
130	46.76	51.44	56.12	60.79	65.47	70.14	74.82	84.17
150	53.96	59.35	64.75	70.14	75.54	80.94	86.33	97.12
180	64.75	71.22	77.70	84.17	90.65	97.12	103.60	116.55
200	71.94	79.14	86.33	93.53	100.72	107.91	115.11	129.50
250	89.93	98.92	107.91	116.91	125.90	134.89	143.88	161.87

# THE SHEEP AND GOAT MILK SECTORS

## THE RELATIONSHIPS IN THE CASE OF GOAT

### **The relationships of buying up prices and production levels in goats (next slide)**

- Light blue line – the level of extensive production
- Light brown line – the level of intensive production
- Green column – the cost level in extensive production
- Pink column – level of semi intensive – intensive production
- Red column – the level gives negative income – not to be reached

# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

## FIRST COST OF MILK PRODUCED PER DOE AND SOLD MILK PER DAY

Litre/ doe or day	First cost of milk (€/litre)							
	0.18	0.22	0.25	0.29	0.32	0.36	0.40	0.43
30	5.40	6.47	7.55	8.63	9.71	10.79	11.87	12.95
50	8.99	10.79	12.59	14.39	16.19	17.99	19.78	21.58
80	14.39	17.27	20.14	23.02	25.90	28.78	31.65	34.53
100	17.99	21.58	25.18	28.78	32.37	35.97	39.57	43.17
130	23.38	28.06	32.73	37.41	42.09	46.76	51.44	56.12
150	26.98	32.37	37.77	43.17	48.56	53.96	59.35	64.75
180	32.37	38.85	45.32	51.80	58.27	64.75	71.22	77.70
200	35.97	43.17	50.36	57.55	64.75	71.94	79.14	86.33
250	44.96	53.96	62.95	71.94	80.94	89.93	98.92	107.91
500	89.93	107.91	125.90	143.88	161.87	179.86	197.84	215.83
750	134.89	161.87	188.85	215.83	242.81	269.78	296.76	323.74
1000	179.86	215.83	251.80	287.77	323.74	359.71	395.68	431.65

# NET VALUE (INCOME) OF SOLD MILK PER EWE OR DOE, AND PER DAY

	sheep	goat				sheep	goat					sheep	goat							
<b>First cost (€/litre)</b>	<b>0.65</b>	0.25	0.29	0.32	0.40	<b>0.58</b>	<b>0.65</b>	0.22	0.25	0.29	0.36	0.4	<b>0.54</b>	<b>0.58</b>	<b>0.65</b>	0.18	0.22	0.25	0.32	0.36
<b>Selling price (€/litre)</b>	<b>0.68</b>	0.29	0.32	0.36	0.43	<b>0.65</b>	<b>0.72</b>	0.29	0.32	0.36	0.43	0.47	<b>0.65</b>	<b>0.68</b>	<b>0.76</b>	0.29	0.32	0.36	0.43	0.47
<b>100 litre</b>	<b>3.60</b>					<b>7.19</b>					<b>10.79</b>									
<b>130 litre</b>	<b>4.68</b>					<b>9.35</b>					<b>14.03</b>									
<b>180 litre</b>	<b>6.47</b>					<b>12.95</b>					<b>19.42</b>									
<b>200 litre</b>	<b>7.19</b>					<b>14.39</b>					<b>21.58</b>									
<b>250 litre</b>	<b>8.99</b>					<b>17.99</b>					<b>26.98</b>									
<b>500 litre</b>	<b>17.99</b>					<b>35.97</b>					<b>53.96</b>									
<b>750 litre</b>	<b>26.98</b>					<b>53.96</b>					<b>80.94</b>									
<b>1000 litre</b>	<b>35.97</b>					<b>71.94</b>					<b>107.91</b>									

**In goat selling price could reach 0.54 €/ litre in direct selling from farm**

# NET VALUE (INCOME) OF SOLD MILK PER EWE OR DOE, AND PER DAY

	sheep			goat				sheep			goat			sheep		goat				
<b>First cost (€/litre)</b>	0.50	0.54	0.58	0.18	0.22	0.29	0.32	0.50	0.54	0.58	0.18	0.25	0.29	0.50	0.54	0.22	0.25	0.50	0.18	0.22
<b>Selling price (€/litre)</b>	0.65	0.68	0.72	0.32	0.36	0.43	0.47	0.68	0.72	0.76	0.36	0.43	0.47	0.72	0.76	0.43	0.47	0.76	0.43	0.47
<b>100</b>	14.39							17.99						21.58				25.18		
<b>130</b>	18.71							23.38						28.06				32.73		
<b>180</b>	25.90							32.37						38.85				45.32		
<b>200</b>	28.78							35.97						43.17				50.36		
<b>250</b>	35.97							44.96						53.96				62.95		
<b>500</b>	71.94							89.93						107.91				125.90		
<b>750</b>	107.91							134.89						161.87				188.85		
<b>1000</b>	143.88							179.86						215.83				251.80		

**In goat selling price could reach 0.54 €/ litre in direct selling from farm**

# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

NET INCOME – the No. of animals needed for the same income

First cost (€/litre)	goat		sheep	goat		sheep	
	0.18	0.324	0.50	0.323	0.25	0.43	0.575
N.o. of milked females (head)	50	250	50	300	100	50	100
100 litre	900		1100		1450		
120 litre	1080		1320		1740		
140 litre	1260		1540		2030		
150 litre	1350		1650		2175		
160 litre	1440		1760		2320		
180 litre	1620		1980		2610		
200 litre	1800		2200		2900		
220 litre	1980				2420		
240 litre	2160				2640		
280 litre	2520				3080		
300 litre	2700				3300		
500 litre	4500				5500		

*selling price:*

*sheep: 0.72 € / litre*

*goat: 0.36 € / litre*



# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

## COST AND INCOME OF PRIVATE MODEL SHEEP FARMS

		2005	2006	2007	2008	2009
<b>Production value</b>	<b>€/ewe</b>	<b>75,9</b>	<b>75,7</b>	<b>64,9</b>	<b>68,6</b>	<b>72,3</b>
Total nutrition costs	€/ewe	38,1	38,1	41,6	45,7	43,0
Total labour costs	€/ewe	8,9	10,1	9,4	11,2	12,5
<b>Total production costs</b>	<b>€/ewe</b>	<b>77,0</b>	<b>72,2</b>	<b>76,3</b>	<b>83,4</b>	<b>83,6</b>
Gross margin	€/ewe	19,2	22,8	7,0	6,1	13,2
<b>Output of sector</b>	<b>€/ewe</b>	<b>-1,1</b>	<b>3,5</b>	<b>-11,4</b>	<b>-14,8</b>	<b>-11,3</b>
Average sector size	ewe/farm	136	120	132	125	212
Average main-product output	lamb/farm	141	129	124	119	229

# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

## INCOME AND PROFIT PER DOE

	Production system		
	Extensive	Semi-intensive	Intensive
1.5 kids with 12 kg body weight (3.2 € /kg)	57.6	57.6	57.6
100 litre milk /year	36	-	-
300 litre milk /year	-	108	-
600 litre milk /year	-	-	216
Total incomes (HUF)	93.6	165.6	273.6
Total costs (HUF)	73.5	115.8	192.4
<b>Incomes - costs (HUF)</b>	<b>20.1</b>	<b>49.8</b>	<b>81.2</b>

goat milk selling price: 0.36 € / litre

# THE ECONOMICAL EVALUATION OF MILK PRODUCTION

## SUSTAINABILITY

### Sheep milk

- **Low income in sector level, 25-40% of income comes from milk production in farm level**
- **„causeless giving up” of production – salary, cost, untended investment subsidy against cow sector**
- **Human resource limit**
- **Import competition (with lot of imitation)**
- **plus 0.5-1.0 lamb/year**

### Goat milk

- **Since 2004 regressive sector**
- **Spread production, small farms, big transport costs**
- **Present and limitation of local market**
- **Low recognition**
- **Good opportunities, but limited maintenance**

**THANK YOU FOR YOUR ATTENTION!**

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