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THE IMPLEMENTATION OF THE STANDARD LACTATION LENGTH AND STANDARD MILKING PERIOD LENGTH IN MILK RECORDING OF DAIRY SHEEP AND GOATS BREEDS IN SLOVENIA

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INTRODUCTION

The lactation length is one of the main factors which affect total milk yield and milk composition in dairy cattle, sheep and goats

Milk production traits are easier to compare among animals when a milking period is of the same length

Standard lactation length is used in dairy cattle for many years and it is accepted worldwide

It lasts from calving to the 305th day of lactation in all cattle breeds

There is no such uniform standard lactation length in dairy sheep and goats!

OBJECTIVE

to introduce the standard lactation length or standard milking period length

according to the production system

in the milk recording of Slovenian dairy sheep and goat breeds

in the breeding programs

to achieve better comparability among animals within the same breed in the milk production traits (total milk yield, total milked milk as well as protein, fat and lactose contents)

Dairy sheep and goat breeds in Slovenia

Bovec sheep

Istrian Pramenka

Drežnica goat

Improved Bovec sheep

Slovenian Alpine goat

Slovenian Saanen goat

MATERIAL

Data from the Central Database for Small Ruminants in Slovenia

Records of milk recordings collected from the year 2005 to 2019

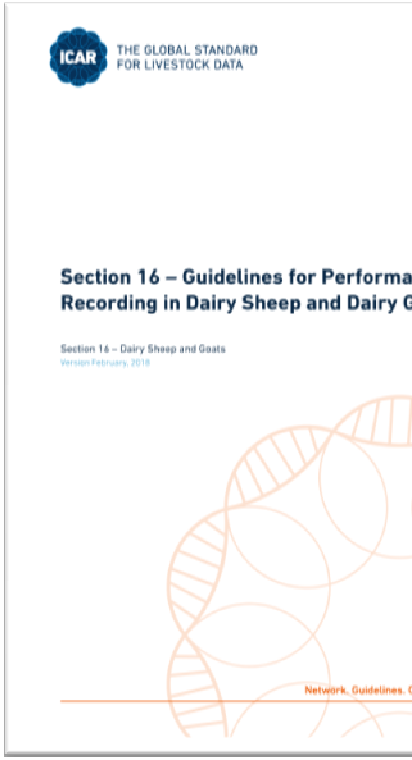
Records control:

- lactation length between 0 and 300 days
- suckling period length between 0 and 100 days
- animals with < 3 milk recordings excluded
- sheep flocks with < 50 records and goat flocks with < 30 records excluded

The number of considered records: 27,234 for dairy sheep, 12,289 for dairy goats

METHODS

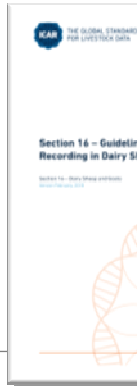
The most important criteria in the implementation of standard lactation length or the standard milking period length is the average lactation length of each breed!



According to the ICAR guidelines each approved organisation should define the standard lactation length **which is close to the average of the considered breed and the production system**

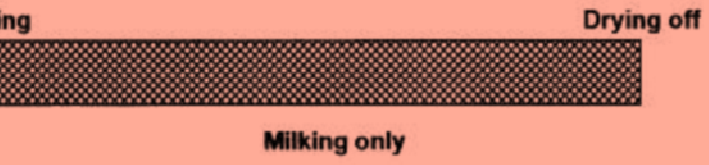
The average age at weaning of offspring and the average milking period length for each breed were calculated based on the records from the database

ICAR Guidelines for Performance Recording in Dairy Sheep and Dairy Goats



MILKING FROM LAMBING/KIDDING

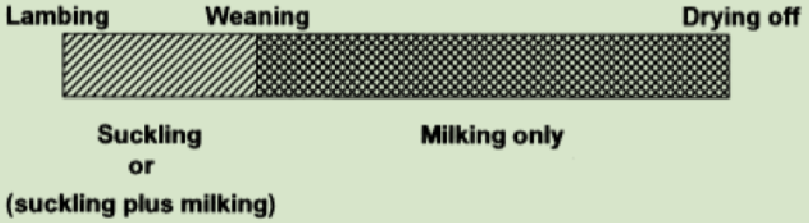
ves are milked after lambing (once the colostral phase is over), as is usually the case
airy cattle.



ctation length and the length of the milking-only period are thus equal (not counting
ostral phase). Milk yield during exclusive milking equals the total milk yield during
on (TMY).

MILKING AFTER A SUCKLING PERIOD

The ewes are milked after a suckling period for the lambs or after a combined suckli
milking period.



tandard lactation length
otal milk yield = TMY

Standard milking period length
Total milked milk = TMM

Standard lactation length / Standard milking period length

Breed	Early weaning Standard lactation length	Late weaning Standard milking period length
SHEEP		
Bovec sheep	/	(40th - 210th day) = 170 days
Improved Bovec sheep	/	(40th - 210th day) = 170 days
Istrian Pramenka	/	(60th - 210th day) = 150 days
GOATS		
Drežnica goat	/	(40th to 210th day) = 170 days
Slovenian Saanen goat	(1st - 240th day) = 240 days	(40th to 240th day) = 200 days
Slovenian Alpine goat	(1st - 240th day) = 240 days	(40th to 240th day) = 200 days

RESULTS

The total milk yield (TMY) in the standard lactation (kg)

The total milked milk (TMM) in the standard milking period (kg)

$$\mathbf{TMY\ (TMM) = (I_0 * M_1 + I_1 * (M_1 + M_2) / 2 + ... I_n * M_n) / 1000}$$

I_0 = the interval between the beginning of standard lactation/standard milking period and the first milk recording (days),

M_1, M_2,… M_n = daily milk yield (g),

I_1, I_2… = the interval between two successive milk recordings (days),

I_n = the interval between the last milk recording and the end of the standard lactation/standard milking period (days).

Total milked milk and milk composition of dairy sheep in the standard milking period (from 2015 to 2021)

Breed	Variable	N	Mean	SD	Min	Max
Bovec sheep (40th - 210th day) = 170 days	Total milked milk (kg)	8,750	137.7	53.7	12.4	450.7
	Protein content (%)	8,672	5.3	0.4	3.3	10.1
	Fat content (%)	8,672	6.4	0.8	3.1	13.9
Improved Bovec sheep (40th - 210th day) = 170 days	Total milked milk (kg)	3,128	191.9	75.1	21.0	514.7
	Protein content (%)	3,127	5.2	0.4	3.9	7.8
	Fat content (%)	3,127	5.7	0.8	2.8	9.7
Istrian Pramenka (60th - 210th day) = 150 days	Total milked milk (kg)	1,972	99.9	31.5	22.3	350.2
	Protein content (%)	1,922	5.9	0.5	4.5	8.3
	Fat content (%)	1,922	7.2	0.8	3.4	10.8

Total milked milk and milk composition of dairy goats in the standard milking period (from 2015 to 2021)

eed	Variable	N	Mean	SD	Min	Max
ovenian Saanen goat 0th to 240th day) = 200 days	Total milked milk (kg)	1,107	376.9	127.3	51.9	954.4
	Protein content (%)	1,107	2.9	0.3	2.2	4.1
	Fat content (%)	1,106	3.0	0.6	1.5	5.9
ovenian Alpine goat 0th to 240th day) = 200 days	Total milked milk (kg)	2,602	323.9	153.0	12.7	1,102.2
	Protein content (%)	2,595	3.1	0.3	2.2	5.3
	Fat content (%)	2,595	3.2	0.6	1.6	7.4
režnica goat 0th to 210th day) = 170 days	Total milked milk (kg)	1,972	267.1	129.5	41.6	833.2
	Protein content (%)	1,922	3.4	0.3	2.7	5.6
	Fat content (%)	1,922	4.1	0.7	2.1	7.5

Total milk yields and milk composition of dairy goats in the standard lactation (from 2015 to 2021)

Breed	Variable	N	Mean	SD	Min	Max
Slovenian Saanen goat (1st - 240th day) = 240 days	Total milk yield (kg)	1,040	517.0	196.4	66.0	1,385.3
	Protein content (%)	1,039	2.9	0.2	2.3	3.9
	Fat content (%)	1,039	3.2	0.5	1.8	6.0
Slovenian Alpine goat (1st - 240th day) = 240 days	Total milk yield (kg)	694	511.6	177.4	76.8	1,219.8
	Protein content (%)	694	3.2	0.3	2.4	4.4
	Fat content (%)	694	3.2	0.4	1.5	4.5

CONCLUSIONS

- **The standard lactation length and standard milking period length were introduced in milk recording of dairy sheep and goats in Slovenia**

- Better comparability in the milk production traits among animals within the same breed was achieved

- In the future, we will continue with the monitoring of total milk yield and total milked milk in the standard lactation and standard milking period according to each breed and adjust intervals if necessary

THANK YOU FOR YOUR ATTENTION!

Foto: SimonKr