

# Milk recording and cattle identification in the Slovak Republic

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Milk recording in the Slovak Republic is carried out by an independent, non-profit, contributory organisation, the State Breeding Institute of the Slovak Republic, established by the Ministry of Agriculture of the Slovak Republic. The objective of this organisation is to perform milk recording.

On 1 January 1998, 226 213 cows (73.6% of all cows bred in Slovakia) were being monitored within the programme of milk recording. The development of the basic indexes (number of breeds, number of recorded animals, etc.) describing milk recording of the I. grade during the five-year period since the foundation of the ŠPÚ SR, is reflected in the following table:

## Session 1. Situation of milk recording in the Slovak Republic

Index Year	1992 from 1.7.92	1993	1994	1995	1996	1997
CP - A <sub>4</sub>	324	309	272	286	208	219
Number of breeds						
CP - A <sub>T</sub>	1 076	1 048	1 099	1 149	1 143	1 282
Number of breeds						
CP - A <sub>4</sub>	59 922	51 558	43 342	44 119	37 042	31 108
Number of animals						
CP - A <sub>T</sub>	210 225	199 711	204 509	205 235	206 678	195 105
Number of animals						
Total number of breeds	1 400	1 357	1 371	1 435	1 351	1 501
Total number of recorded animals	270 147	251 269	247 851	249 354	243 720	226 213
Total number of animals	396 794	343 222	359 348	352 781	331 113	307 394
% of recorded animals	68.08	73.21	68.97	0.68	73.61	73.6

*Table 1. National milk production.*

Total number on 01/01/1998		Average production per cow and per year		
Dairy cows	Dairy herds	Milk	Fat Protein % volume	Protein
307 394	2 050	3 604	3.73	3.13

*Table 2. Position of milk recording.*

Recorded herds		Recorded cows	
Number	Percentage	Number	Percentage
1 501	73.22	226 213	73.59

*Table 3. Recording methods. Percentages of cows recorded according to the various methods recognised by ICAR.*

	A3	A4	AT	A...	B...	B...	C...	Altogether
Percentage of recorded cows		13.75	86.25					100%

*Table 4. Results of milk recording.*

	All breeds together	Main breeds with at least 1000 lactation results			
		SS	SP	H	SS x H
Milk yield per recorded cow - kg					
Average	3 878	3 353	2 915	5 053	3 880
Number of lactations	144 573	18 813	5 262	12 313	25 253
Length of the lactations - days					
Average	291	291	289	295	290
Butterfat content %	4.03	4.03	3.99	4.06	4.04
Protein content %	3.16	3.18	3.18	3.15	3.17

SS- Simmental.

SP - Pinzgauer.

H - Pie Noire Holstein.

SS x H - Cross - Breeds.

The animals are marked immediately after birth in order to preserve the identity of the animal. Within 72 hours, this marking is replaced by a plastic earmark or tattooing, this is done by the farmer. On some selected farms, a worker marks the calves on days 26 to 34 after birth by a metal earmark (a permanent marking) with a code which is identical to the code on the plastic earmark.

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## **Session 2. Cattle identification**

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### **Methods of marking**

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An individual pedigree certificate will be issued for each animal recorded in the breeding book, upon request of the Association of Breeders. This includes the breed, sex, a clear identity of the animal, the father and mother of the animal, their fathers and mothers and the date of birth.

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### **The pedigree certificate**

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All basic data is sent to the Computing Centre of the ŠPÚ SR - specialised breeding establishment in Zilina, where it is processed. At the same time it is archived. Centralised data processing is performed at two-week intervals. Once a year the results are officially published in the "Yearbook".

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## **Session 3. Computer developments and data processing**

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Based on the collected data, the results of inheritance analysis of breeding bulls in insemination are periodically processed and published. The results of the analysis are officially published twice a year and are available to a wide public. In May 1997, the results of this analysis were for the first time published using the latest method, Animal-Model-Test Day Mode (AM - TDM), which is becoming the official method of genetic evaluation of cattle in the Slovak Republic. The Slovak Republic ranks amongst the first countries in the world, in which this system had been successfully tested and is now being implemented into routine inheritance controlling.

Milk recording is on the whole carried out by the ŠPÚ SR through:

- thirteen regional centres;
- the Central Computing Centre in Zilina;
- the Central Laboratory for Milk Sample Analyses in Zilina;
- the specialised breeding establishment in Nitra.

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## **Session 4. Organisation and financing of milk recording**

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The ŠPÚ SR has its own laboratory of immunogenetics in the City of Nitra where all paternity tests are carried out upon request. The paternity is done by identification of the covering male animal at the time of covering.

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### **Methods of establishing the paternity**

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**Methods of  
controlling the  
performance**

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The control of performance (CP) is carried out only on the farms that have been selected, upon the request of the farmer, by affinity associations of farmers or official organisations. They take care to select the best herds for a permanent growth of the quality of the gene pool. The ŠPÚ SR uses the method "A" for the CP, which includes a control of quantity of milk, fat, protein, lactose and other components if necessary (somatic cells, urea). It is carried out in two variants by an entrusted person of the ŠPÚ SR.

- **Variant A<sub>4</sub>** - a standard reference method, carried out in intervals of 28 to 30 days of all milking of the controlled day for 24 hours. Nowadays, this method is used for 31 108 cows (1 January 1998).
- **Variant A<sub>t</sub>** - the control is carried out on average at 30-day intervals of one milking, alternatively one month in the morning, the next month in the evening, twelve controls in a year. This variant now includes 195 105 cows.

The following milk measuring machines, acknowledged by ICAR, are used to find out the milking capacity:

- Tru - Test      **2 093** pcs

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**Checking the  
adherence to the  
breeding law in  
slovakia**

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This agenda is taken care of by the State impartial organisation, the Breeding Inspection of the Slovak Republic, which is responsible for abiding to the Slovak Technical Norms and other rules.

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**Checking the milk  
performance**

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The farmer must create conditions for a regular control. After calving, the control takes place the next day, but not before the evening of the fifth day of lactation. If there are two milkings, the control usually starts in the evening and ends in the morning. If there are three milkings, then the control of the whole stable starts at noon and ends in the morning. For each stable, there is a control period, which must not be shorter than twenty-six days or longer than thirty-four days. The numeric marking of the time of control and of the interval between milkings is worked out in the principles ASD of the system of Performance Control. The cows must be milked in the usual way on the day of control and change in the way of milking is forbidden.

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**Symbols used in  
performance data**

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All symbols are processed and explained in the principles of the ASD system. We take the liberty to claim that the ŠPÚ SR is ready, in the process of getting the special seal, to prepare and present all documents required by the special Commission. At the same time, we guarantee that we will present all information that the Commission might consider important and we are also ready to pay all costs of the Commission.

Cost price of milk recording per cow and per year, according to the recording method expressed in litres of milk.

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**Cost and financing**


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*Table 5. Price paid by the farmer as a percentage of the cost price, according to the recording method.*

	A3	A4	AT	A...	B...	C...
Cost price per cow and per year - litres of milk		29.4	19.9			
Percentage of cost price paid by the producer		67	67			

The basic philosophy and objective of the State Breeding Institute of the Slovak Republic, which is responsible for milk recording in the Slovak Republic, is to constantly improve the whole system of recording in order to make it an effective tool helping the breeders to advance cattle breeding.

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**Session 5.**  
**Activities of**  
**milk recording**


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The main contribution of milk recording is that all data collected within the programme of milk recording is processed into outputs, which can be used in analyses of the state of cattle breeding or for identification and elimination of possible faults. At the same time, the results can be used as a basis for comparison between different breeders.

The outputs are periodically provided to the breeders directly from the Computing Centre of the State Breeding Institute of the Slovak Republic in Zilina (routine processing), according to closed contracts. These are for example, monthly results of milk recording (monthly reports), life-long performance results, lists of new-born animals, closing outputs of milk recording, results of performance control of calves and young animals. Furthermore (within the programme "Plemservis"), the breeders can ask for operative analyses of the respective herd directly from the Regional Centre of the ŠPÚ SR. Regional consultants then provide the breeders with the following analyses of the respective herd or farm:

- performance of animals according to paternity for standard lactation;
- composition of the dairy herd according to paternity;
- composition of the heifer-herd according to paternity;
- composition of the dairy-herd according to age and ongoing lactation;
- breed composition of the recorded dairy-herd;
- closing performance controls (last closed standard lactation of living animals);

- the structure of the dairy-herd according to milk-yield for closed lactation;
- list of the best animals in breeding;
- a survey on the average milk yield of living animals, daughters of particular bulls, according to the ongoing lactation;
- list of animals at classification.