The methodology of performance recording for cattle without market milk production (KUMP)

This methodology respects and is based on recommendation by „Internacional Comittee for Animal Recording" (ICAR), mostly in compliance with the system of performance recording method „A".

1. Object of methodology

The object of methodology is in detection of breeding data that are needed for check of production traits for cattle without the market milk production, whose progeny is intended for next breeding or for slaughter. The whole breeding of cattle without the market milk production in the Czech Republic is evaluated according to this methodology.

2. Terminology

2.1. **Herd** – the group of cows bred in the same conditions for production of calves

2.2. **Calving interval** – the period from one calving to the next one (in days)

2.3. **Calving process** – classification of calving process and rating of help needed for birth of calf. Following scale is used for classification:

1 – *spontaneous delivery* without any help of breeder
2 – delivery *with help of one or two breeders*
3 – delivery requiring help of *three and more people* or *help of vet*
4 – *caesarian section* or dystocia requiring postpartal treatment with repetitive vet seeing

The rate (%) of easy calvings (1 and 2), which take share in the total amount of calvings, are shown in breeding records.

2.4. **Cattle tagging** – all animals involved into KUMP must be tagged in accordance with the valid legislation

2.5. **Weight of animals** – is taken by weighing with accuracy of 1 kilogram. The reduction for feeding is not done within the calculation of daily gain. It is also possible to use the qualified estimation of birth weight of calves.

2.6. **The weight recalculated to unified age** – KUMP use the unified age of 120, 210 365 days for method A and 210 days for method B for the evaluation of the own performance. The recalculation for appropriate age is done according to the age of calf at weighing by following intervals:

Weight at age	Method A	Method B
120 days	90 to 170 days	----
210 days	171 to 290 days	90 to 250 days
365 days	291 to 450 days	----

The calculation of weight recalculated to the unified age is based on the date of weighing and the weight and the date of previous weighing and previous weight. On the basis of these data the average daily gain P is determined according to the following formula:

$P = (H_1 - H_2) * n_{-1}$
Where: P = average daily gain from previous weighing
H_1 = weight at the day of weighing
H_2 = weight at previous weighing

n = number of days from previous weighing to the evaluated weighing

The calculation of weight is done by formula:

$$H_P = H_1 \pm (P * n_P)$$
Where: H_P = weight recalculated for unified age
H_1 = weight at the day of weighing
P = average daily gain from previous weighing
n_P = the difference between the age at weighing and the recalculated age (in days)

2.7. **Milk production** – it is the production of milk from the calving to the weaning of a calf and it is evaluated after the calf´s weight recalculation for the unified age 120 or 210 days.
2.8. **Equipment for KUMP** - breeder must provide adequate system of corral equipment with possibility of sorting and immobilization of animals for weighing, measuring and classification during KUMP.
2.9. **Recording year** – it is the period from October, 1 to September, 30 of following year, when the data needed for processing of KUMP are collected
2.10. **Qualified estimation** – the estimation of birth weight done by breeder based on his/her experience
2.11. **KUMP** – it is provided at individual farms by the employee of approved breeder association, who fulfil the eligibility with certificate for providing of KUMP – inspector.
2.12. **Results of KUMP** – they are processed centrally

3. Generally
The breeder provide the basic breeders data for the purpose of KUMP:

3.1. **Input list of involved cows** – animal ID number, date of birth, breed, parent´s data, farm number in the central register
3.2. **Maintained data**
a) about reproduction of female – they are taken from the breeding register of breeder
b) about calf – calf´s ID number, date of birth, sex, calving process, birth weight, parent´s data about their movements within the central register, including farm numbers.
Breeder transfer these data based on the prime recording.

3.3. **Methods of KUMP**
The growth and reproduction traits are recorded within the performance recording of cattle without the market milk production and subsequently evaluated according to breeding programmes. The type classification is solved in the separate methodology. The extent of recorded data is determined in accordance with the level of performance recording:

a) Reproduction traits (in both methods of KUMP)
b) Growth traits:
Method „A" – it involves the weighing of calves by inspector. The weighing is usually done 3times per recording year in order to achievement of maximal possible number of weighing calves, namely within periods that are crucial for calculation of calves´ body weight at the age of 120, 210 and 365 days (see article 2.6.). Birth weight is taken by breeder with weighting within 24 hours after the birth, the qualified estimation of weight is equivalent data.

Method „B" – it involves the weighing of calves by inspector. The weight is recalculated to the weight at the age of 210 days (see article 2.6.).

3.4. **Data recorded within KUMP** are used for estimation of animal´s breeding value, for breeders and production analysis, processing of breeding programmes and for selection of animals for herd book.

4. Recorded data
Following data are recorded at farms for the purpose of KUMP:

Data recorded within performance recording	Category							
	Calves		Cows		Stock bulls		Recorded by (I, CH)	
	Mode of performance recording							
	A	B	A	B	A	B	A	B
animal´s tagging according to valid legislation	yes	yes	yes	yes	yes	yes	CH	CH
pedigree of animal – sire and dam	yes	yes	yes	yes	yes	yes	CH	CH
breed group	yes	yes	yes	yes	yes	yes	CH	CH
date of birth	yes	yes	yes	yes	yes	yes	CH	CH
calving process, birth weight	yes	yes					CH	CH
weight at 120, 210 and 365 days	yes						I	
weight at 210 days		yes						I
date of calving			yes	yes			CH	CH
date of insemination, used for ET			yes	yes			CH	CH
bull in natural service					yes	yes	CH	CH
type classification	yes	yes	yes	yes	yes	yes	I	I
presence of horns (chosen breeds)	yes	yes	yes	yes	yes	yes	I	I
colour (chosen breeds)	yes	yes	yes	yes	yes	yes	I	I
changes and movements within central register	yes	yes	yes	yes	yes	yes	CH	CH

The data recorded in approved testing facilities can be used for the purpose of KUMP
Explanations: I = inspector, CH = breeder

5. Evaluated traits
The evaluated traits result from the recorded data and their evalutaion goes from breeding programmes of individual breeds. The basic evaluated reproductive traits are: calving process, calving interval, age at the first calving, organisation of herd reproduction.
The basic evaluated growth traits are: birth weight, weight at the age of 120, 210 and 365 days.

6. Processing and publishing of results of KUMP
Data recorded in KUMP are processed once per year, usually at the end of recording year and the results are published in form of annual evaluation.

6.1. The results from farm include
6.1.1. The list of animals on the date of evalutation according to categories
6.1.2. The performance according to individual category
6.1.3. Data from reproduction
6.1.4. Evaluation of calving process
6.1.5. Evaluation of calves losses
6.1.6. Evaluation of type classification

6.2. **The closure of performance recording in Czech Republic**
6.2.1. They contain the summary of data as in part 6.1. according to breed group.

7. The requisite data kept by breeder
The breeder keep the data in accordance with the valig legislation and the data must uniquely prove the records taken within the KUMP.
Prospective completion of The methodology of KUMP are proposed by Herdbook Council of appropriate breed, then they are declared by the Panel of Herdbook Councils and they are approved by Ministry of Agriculture.

The substitution of previous rules
This methodology fully substitutes the previous Methodology of performance recording of beef cattle breeds (KUMP) approved by Ministry of Agriculture Czech Rep.

Elaboration of this methodology – the compiler
Český svaz chovatelů masného skotu v Praze/The Czech Association of Beef Cattle Breeders in Prague (ČSCHMS) IČO (company registration number): 00536903, the organization authorized in compliance with the law No. 154/2000 Sb.

In Prague; 2006, December 20