

The methodology of rearing of beef breeding bulls

1. In general

The function of rearing station (OPB) is in testing of own performance of young breeding bulls born out of advised matings within standard reference conditions. The goal of this testing is the recognition of certain animal qualities, feed consumption, perhaps even the quality of semen. Bulls of beef breeds are tested that way, and rules of the testing result from the valid legislation. Results of this testing are used for selection of young bulls for breeding. The process conditions and organizational setup of OPB are requested by operational rules of the propriate OPB.

2. Filling of OPB

Young bulls entering the OPB must be only weaned from selected parents which are included into the recording of beef performance (KUMP) – method A, and fulfil all other requirements specified by the relevant approved breeder association. Their pedigree must be documented and the parentage must be verified in accordance with valid legislation. There are cyclic entering and rearing of bulls at OPB. The schedule of entering is given by the approved breeder association.

3. The rearing at OPB

a) pre-testing period

This period is making for adaptation of animals to the conditions of OPB and for realisation of necessary veterinary acts at the same time. This period takes at least 30 days before the beginning of the own performance testing. Within the pre-testing period bulls are divided into groups with reference to their weight, age and breed, perhaps even to their origin at the same farm. The own performance testing is processed in these groups. All bulls must have the cattle-leader before the beginning of pre-testing period.

b) period of the own performance testing

This period takes 120 days, if the approved breeder association does not detrmine any other length upon requirements of appropriate breeder clubs.

c) period after the own performance testing

This period is used for the preparation of bull for the basic selection. The minimum length of this period is 20 days.

4. The stabling of bulls

Young bulls are free-housed and fed in groups within the same or similar technologies as during the period of the own performance testing. The goup consists of maximum 10 bulls and this group is not changed before the end of the own performance testing. The stabling and size of pen must be in accordance with valid legislation.

5. The feeding of bulls

All bulls must have free access to the fodder and fresh water.

a) pre-testing period

The feeding ration is calculated with regard to the preparation of bulls for the own performance testing.

b) period of the own performance testing

The alimentation is based on the roughage and concentrate mixture with regard to the standard nutrient demand for the bull's rearing (see Attachment No. 1). The level of average daily gain is determined by the appropriate breeding program of individual breed. The keeper of OPB records the feed and nutrient consumption during the own performance testing. The quality of the feeding ration is attested with the fodder analysis (optimizing of feeding ration) from the beginning and during the own performance testing period (minimally twice).

c) period after the own performance testing

The nutrition is regulated with regard to the next utilization of breeding bull.

6. The detection of body weight and body measurements

Body weight

The body weight is gained with weighing without the reduction due to feeding with an accuracy of 1 kg. The weighing is always done:

- after the entrance to the OPB
- at the beginning of pre-testing period
- at the beginning of the period of the own performance testing (+/- 3 days)
- in regular monthly interval
- at the end of the own performance testing period (+/- 3 days)

The body weight at the beginning and at the end of testing is taken from two sequent weighing with in between interval form 23 to 25 hours. The first weighing is provided by the keeper of OPB after the agreement with the employee of approved breeder association. The second weighing is always done by the employee of approved breeder association. The average body weight is calculated from both weighing for evaluation of testing. The day when the weighing is done by the employee of approved breeder association is taken up as the day of beginning or as the day of end of testing period. If the difference bigger than 10 kg is detected, the check weighing is done immediately and this weight is decisive. The owner of the bull has the right to keep informed about the results of individual weighing.

Body measurements

These body measurements are taken by measuring:

- at the beginning of the own performance testing period – height at hips (cm)
- at the age of 365 days (+/- 15 days) – height at hips (cm)
- at the end of the own performance testing period – height at hips (cm)
– scrotum girth (cm)

The other body measurements are taken after the agreement with approved breeder association based on requirements of appropriate breeder clubs.

The linear type classification is done by the employee of the approved breeder association at the day of beginning of the own performance testing period.

7. Hoof trimming

The hoofs must not be overgrown because it has negative impact on the state of feet and legs. The treatment is done as needed based on the decision of keeper of OPB, if there is not any other agreement with the owner of the bull.

8. Preparation for basic selection

This preparation consists in reliable and safe handling of bull, perhaps even in check of the quality of semen. The presentation of bull must be in accordance with safety regulations, it only allows the use of guide-stick which is adjoined into the cattle-leader.

In case of extraction of cattle-leader, the bull must be handled on halter with two longes by two handlers.

9. Registration at OPB

a) report of purchase of breeding bulls

The report of purchase is transmitted from OPB at the beginning of pre-testing period to the appropriate approved breeder association.

b) registration card of bull's rearing

This card is created after the entering of the bull, if the requisite data are not in computer database. It is used for registration of all detected data from weighing, body measurements and health state of bull during his stabling at OPB. The filled registration card is document for evaluation of the bull at basic selection.

10. Evaluation of own performance testing

It is done centrally by approved breeder association. The evaluation of bull's growth ability, his body measurements and type classification are processed with math-statistical methods and the results are used for selection at basic selection.

11. Selection criteria

They are determined by approved breeder association according to breeding programmes.

They are following:

- young bull must match the requirements of breed standard
- relative breeding value for daily gain in testing
- weight at the age of 365 days
- height at hips on the last date of testing period
- type classification at the basic selection
- average daily gain from birth to the termination of own performance testing

The bound of selection criteria, eventually their completion or change are determined by individual Herdbook Council of appropriate breed and are declared by the Panel of Herdbook Councils.

12. Basic selections

The schedule of basic selections is made by approved breeder association after the agreement with keepers of OPB.

Elaboration of this methodology – the compiler

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Attachment No. 1 – Nutrient requirements

Nutrient requirements for head and day is based on literary origin calculation according to following formulas:

NEV (Net Energy of Fattening) (MJ) = -2,68+0,086*weight in kg+16,50*daily gain in kg

PDI (g) = 3,25* weight in kg^{0,75}+0,23* weight in kg +190,84* daily gain in kg +34,48

fibre (kg) = 0,7+0,0026* weight in kg -0,2* daily gain in kg

dry matter = 0,233+0,073* weight in kg^{0,75}+0,988* daily gain in kg

It is recommended to gross up the result of calculation of energy requirement for 10%

Live weight (kg)	Daily gain (kg)	NEV (MJ)	PDI (g)	Ca (g)	P (g)	Dry matter (kg)	Fibre (kg)
150	1,4	33,3	475	35	23	4,8	0,8
	1,5	35,0	495	37	24	4,8	0,8
	1,6	36,6	514	39	25	4,9	0,8
200	1,4	37,6	521	36	25	5,5	0,9
	1,5	39,3	540	40	26	5,6	0,9
	1,6	40,9	559	43	27	5,7	0,9
250	1,4	41,9	563	37	26	6,2	1,1
	1,5	43,6	583	41	27	6,3	1,0
	1,6	45,2	602	45	28	6,4	1,0
300	1,4	46,2	605	39	27	6,9	1,2
	1,5	47,9	624	44	28	7,0	1,2
	1,6	49,5	643	48	29	7,1	1,2
350	1,4	50,5	645	41	28	7,5	1,3
	1,5	52,2	664	46	27	7,6	1,3
	1,6	53,8	683	50	30	7,7	1,3
400	1,4	54,8	684	44	30	8,2	1,5
	1,5	56,5	704	49	32	8,2	1,4
	1,6	58,1	723	53	33	8,3	1,4
450	1,4	59,1	723	47	33	8,8	1,6
	1,5	60,8	742	51	35	8,9	1,6
	1,6	62,4	761	55	36	9,0	1,6
500	1,4	63,4	760	50	35	9,3	1,7
	1,5	65,1	779	54	37	9,4	1,7
	1,6	66,7	798	57	38	9,5	1,7
550	1,4	67,7	797	53	38	9,9	1,9
	1,5	69,2	816	57	39	10,0	1,8
	1,6	70,8	835	61	40	10,1	1,8
600	1,4	72,0	834	55	42	10,5	2,0
	1,5	73,5	853	59	43	10,6	2,0
	1,6	75,1	872	64	44	10,7	1,9

The feeding ration must be calculated at least for the traits mentioned in the table on the basis of lab analysis of all used feeds.

Used literature:

Sommer, A. at al (1994): Potřeby živin a tabulky. Výživné hodnoty krmiv pro přežvýkavce. Pohořelice