

## **Chemical composition of rabbit meat from loin and hind leg from local rabbits breed**

Rabbit meat is easily digestible and has a very high nutritional value evaluated with chemical composition of meat. The basic parameters of the chemical meat composition are the content of water, dry matter, fat, crude protein and ash. Rabbit meat is high in protein, low in fat and also low in cholesterol (approximately 59 mg/100 g muscle, Gondret et al. 1998).

The water content of the meat is determined indirectly, by determining the dry matter and then calculating the water content. The dry matter was determined by drying the samples at 105 ° C to constant weight (AOAC, 1995). Rabbit meat contains between 63.6 and 76.8% of water, with this value varying for individual muscles (Tůmová et al., 1996). The water content is the smallest in the muscles of the chest, while the muscles of the loin have the highest water content. Higher water content in meat can be observed in slow-growing breeds of rabbits compared to fast-growing ones (Bernardini et al., 1994; DalleZotte 2002). In our project, the highest water content was detected in MBF of Blue of Holic rabbit (75.54 %) and also in MBF of Rex (75.34 %). On the other hand, Blue of Holic had the lowest water content in MLL (72.43 %).

In rabbits, carcass contains four main adipose depots: visceral, subcutaneous, intermuscular and intramuscular. The main part of visceral fat is the perirenal fat, representing about 50–60% of the total carcass fat content (Pla et al. 2004) and also scapular fat. An important component of fat is also intramuscular fat, which is distributed between the muscle fibers and is obtained by the Soxhlet method (AOAC 1995). The content of intramuscular fat affects the taste, tenderness and juiciness of meat. In rabbit meat, the fat content is between 0.6 – 14.4 % (DalleZotte 2002) and the individual valuable parts differ significantly in their fat composition. In general, the thighs contain more fat (3 %) than loin (1.2 %; Metzger et al. 2006). However, in our case, only MBF of the thigh muscle was analyzed, so the difference between MBF and MLL were not so significant, because most of the fat in the thigh muscle occurs between the muscle bundles. The highest fat content in our project was detected in MLL of Blue of Holic (2.27 %), while the lowest in MBF of Rex (0.69 %).

The nutritionally most important component of meat is protein. Rabbit meat is characterized by a higher protein content (18.1 – 23.7 %) compared to the meat of other livestock and is also characterized by high digestibility of up to 95% (Hernández and Gondret 2006). Crude protein is detected by the Kjeldahl method (factor used - 6.25; AOAC 1995). In general, the loin muscle contains a higher protein content than the muscle of the thighs. The highest protein content is found in the parts of carcass with the lowest fat content, because the content of protein decreases with increasing amount of fat. The highest protein content was determined in MLL of Popielno White (23.33 %) and the lowest in MBF of Blue of Holic (20.93 %).

The last but also a very important component of meat is ash. Ash content is determined by burning the homogenized sample at 550 ° C in an oven to constant weight for at least 4 hours. The ash content therefore indicates the content of inorganic substances in the meat. In the case of rabbit meat, the ash content is around 1.31 % and according to Gasperlin et al.

(2006), ash content is not related to an individual's genotype. Likewise, in our experiment, the individual genotypes did not differ in terms of ash content.

Table 1. Chemical composition of muscles of local rabbit breeds

| Breed          | muscle     | Water (%) | Dry matter (%) | Fat (%) | Crude protein (%) | Ash (%) |
|----------------|------------|-----------|----------------|---------|-------------------|---------|
| Termond White  | <i>MLL</i> | 74.27     | 25.73          | 1.30    | 22.46             | 1.39    |
|                |            | 0.85      | 0.85           | 0.59    | 3.39              | 0.06    |
|                | <i>MBF</i> | 74.11     | 25.89          | 1.21    | 21.52             | 1.20    |
|                |            | 0.53      | 0.53           | 0.71    | 2.35              | 0.04    |
| Pannon White   | <i>MLL</i> | 73.67     | 26.33          | 0.81    | 22.89             | 1.39    |
|                |            | 0.75      | 0.75           | 0.18    | 1.40              | 0.06    |
|                | <i>MBF</i> | 73.01     | 26.99          | 1.29    | 21.75             | 1.47    |
|                |            | 0.82      | 0.82           | 0.42    | 1.01              | 0.05    |
| Popielno White | <i>MLL</i> | 73.04     | 26.96          | 0.86    | 23.33             | 1.53    |
|                |            | 0.68      | 0.68           | 0.27    | 1.81              | 0.10    |
|                | <i>MBF</i> | 72.57     | 27.43          | 1.43    | 22.39             | 1.46    |
|                |            | 0.98      | 0.98           | 0.60    | 0.60              | 0.06    |
| Moravian Blue  | <i>MLL</i> | 73.91     | 26.09          | 1.13    | 22.42             | 1.30    |
|                |            | 0.49      | 0.49           | 0.34    | 1.48              | 0.03    |
|                | <i>MBF</i> | 72.71     | 27.29          | 1.58    | 21.27             | 1.29    |
|                |            | 0.49      | 0.49           | 0.48    | 0.94              | 0.16    |
| Rex            | <i>MLL</i> | 73.08     | 26.92          | 1.07    | 22.20             | 1.53    |
|                |            | 1.75      | 1.75           | 1.04    | 1.15              | 0.15    |
|                | <i>MBF</i> | 75.34     | 24.66          | 0.69    | 21.13             | 1.60    |
|                |            | 1.18      | 1.18           | 0.33    | 1.15              | 0.08    |
| Blue of Holic  | <i>MLL</i> | 72.43     | 27.57          | 2.27    | 21.97             | 1.52    |
|                |            | 2.54      | 2.54           | 2.38    | 1.67              | 0.09    |
|                | <i>MBF</i> | 75.54     | 24.46          | 0.79    | 20.93             | 1.60    |
|                |            | 1.25      | 1.25           | 0.49    | 1.33              | 0.05    |

*MLL* - *m. longissimus lumborum*, *MBF*- *m. biceps femoris*

## Literature

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