

## **Exploitation of the biological and genetic potential of sheep to obtain products enriching the human diet**

### **Summary**

The adaptability of sheep to harsh environmental conditions makes it possible to obtain valuable products using poor fallow land. However, this requires the selection of an appropriate genotype and stocking density. Both grazing and a diet enriched with vegetable and fish fats increase the content of PUFA n-3 and CLA fatty acids, which are beneficial to human health, in the lipid fraction of milk and intramuscular fat. The breed of sheep has been observed to influence carcass quality and the physical properties and chemical composition of lamb meat. Besides feeding, the fatty acid profile of the fat fraction of milk and the muscle tissue may also be dependent on the genotype of the animals. Sheep with the BB  $\beta$ -lactoglobulin genotype had higher content of casein and whey proteins in the milk. Age and higher body weight at slaughter in sheep kept in the same environmental conditions was not found to affect meat quality. Sheep products, irrespective of how they are obtained, may be an important component of the human diet.

**KEY WORDS:** sheep, environmental conditions, slaughter value, bioactive components