The preliminary determination of conjugated linoleic acid isomers in milk of Polish sheep breeds by silver ion liquid chromatography (Ag⁺–HPLC)

**Summary**

The purpose of the presented study was to determine the content of different CLA isomers’ groups including c9,t11 in sheep milk. The experiment was carried out on three domestic sheep breeds: Polish Merino (MP), Pomeranian Sheep (OP) and Polish Mountain Sheep (POG). The milk samples were collected from 30 ewes (10 for each breed), which were at the age of 3-4 years and at the 4th week of lactation. CLA isomers were detected using silver ion liquid chromatography (Ag⁺–HPLC). The highest content of c9,t11 CLA isomer was recorded in milk of POG ewes. Milk from MP was characterized by considerable level of the mentioned isomer as well (P≤0.01) in comparison with OP sheep. In milk fat of POG the total CLA isomers content was the highest (P≤0.01), but proportion of the main isomer c9,t11 was higher in MP milk (79% vs. 67,5%). The tt and cc CLA isomers were higher (P≤0.01) in POG milk, while ct/tc isomers showed the highest value in MP milk. The lowest proportion of all groups of CLA isomers (cc, tt, ct/tc) has been found in OP milk. All groups of CLA isomers, as well as c9,t11 isomer were positively (P≤0.01) correlated with fat content in milk. Positive correlations (P≤0.05) with protein content were determined for ct/tc CLA group, c9,t11 and total CLA isomers.

**KEY WORDS:** sheep / milk / CLA isomers