

## EFFECTS OF ADDITIONAL FEEDSTUFFS ON MILK QUALITY AND HEALTH STATUS IN ORGANIC GOATS

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**Summary.** The present study was designed to assess the role of additional feedstuff (wheat bran, sunflower meal and rapeseed meal) on milk quality and health status in organic goats. The feeding trial was performed in farm "Bēzī", Latvia and lasted for 92 days. Four experimental diets were formulated: Diet 1 consisted of basic feed (BF), which included pasture grass and hay with added oat meal, and minerals with vitamins; Diet 2 was based on BF with added wheat bran; Diet 3 on BF with added sunflower meal; and Diet 4 on BF with added rapeseed meal (Diet 4). Twenty-four goats were selected and randomly divided into 4 groups (Groups 1 - 4) each of 6 goats. The animals in Groups 1, 2, 3 and 4 were fed by the Diet 1, 2, 3 and 4, respectively.

The experiment demonstrated that in organic goats on Diet 2 had increased milk yield by 4.3 %, reduced feed units and consumption of digestible protein on 4.2 % and 0.6 % compared to goats on Diet 1. In addition, goats on Diet 2 increased milk fat, protein and sugar content in milk on 22.8 %, 13.3 % and 1.1 %, respectively, compared to controls (Diet 1).

Further, goats on Diet 3 had increased goat milk yield and digestible protein consumption on 1.8 %, and 8.0 %, and reduced level of milk fat on 1.6 % compared to controls on Diet 1. In addition, goats on Diet 3 had on 3.9 % increased protein content and on 0.2 % sugar content in milk compared to controls. Goats on Diet 4 had increased milk yield on 12.64 %, reduced feed units and digestible protein consumption on 10.4 % and 3.1 % compared to Diet 1. In goats on Diet 4 milk fat increased on 3.2 %, and protein and sugar content in milk decreased on 1.1 % and 1.6 %, respectively, compared to control group. In milk of experimental goats (Groups 2-4) statistically significantly increased number of nucleous cells and of leucocytes, and significantly reduced number of lymphocytes was obtained compared to Group 1 ( $P < 0.05$ ). In addition, in Groups 2-4 statistically significantly increased T – B – A cell and phagocytes relative number was registered compared to controls ( $P < 0.05$ ).

The results from this study demonstrate that diets supplemented with additional feedstuffs such as wheat bran, sunflower and rapeseed meals have potential value to increase milk production, have significant positive influence on liveweight gain and health status in organic goat production system.

**Key words:** organic farming, wheat bran, sunflower and rapeseed meals, milk production, goats.