

EFFECT OF GRAIN SOURCE TO GOAT MILK YIELD AND IMMUNOLOGICAL PARAMETERS

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Abstract. The milk of goats is mainly reserved for cheese making and therefore a quality evaluation of the milk is of fundamental importance. Goat milk composition is strongly influenced by goat nutrition, especially in highly productive animals. The feeding trial was carried out in organic goat farm for 135 days totally. The goal of our investigation was to assess the influence of different feedstuffs – wheat (wheat group –WG), oats (oat group – OG) and barley (barley group – BG) – on organic Alps goat milk quality indices. The highest milk yield was reached with the goats of the Oat group (2.88 kg per goat per day), which received feed ration with oat grain ($p \leq 0.05$). The lowest milk yield was shown by goats of the Wheat group (2.15 kg per goat per day), but the content of protein (2.84%) and milk fat (4.56%; $p \leq 0.05$) was highest in this group. The highest goat milk somatic cell count (SSC) was in barley group ($301 \mu\text{L}^{-1}$) and the lowest ($213 \mu\text{L}^{-1}$) - in wheat group ($p \leq 0.05$). The goat group, which in feed ration received barley grains, showed a reducing count of milk active T-, B-, D-cells and an increasing count of O-cells what is indicative of the changes in the immune system. A relatively high level of lymphocytes, active immunocompetent cells and monocytes (macrophages) and a low level of lysozyme and CIC are characteristic of a good immunity status of goats; in this case, it was provided the inclusion of wheat grain into the feed ration. After examining the various fodder additive effects on goat milk cytological and immunological parameters we came to a conclusion that wheat had greater advantages than oats whereas barley grains were given the last position.

Keywords: goat, milk, nutrition, cytological indices, immunological indices