

USE OF CLINOPTILOLITE IN RATIONS OF ADULT DOGS

Algirdas Januškevičius¹, Gražina Januškevičienė², Kamilė Plungytė¹

¹*Department of Animal Nutrition, Veterinary Academy, Lithuanian University of Health Sciences*

Tilžės 18, LT-47181 Kaunas, Lithuania; tel. +370 37 363 408, e-mail: jalgis@lva.lt

²*Department of Food Safety and Animal Hygiene, Veterinary Academy, Lithuanian University of Health Sciences*

Tilžės 18, LT-47181 Kaunas, Lithuania

Abstract. German shepherd bitches were fed full-fledged dry petfood "Araton". The test was carried out in different stages of physiological state of bitches – at rest, pregnancy and lactation period.

In females, which were fed dry food with clinoptilolite at rest, the stool contained 23.98% of dry matter, or by 2.32% more compared to the faeces of the control group of bitches ($p < 0.001$); in the middle of pregnancy, the values were 23.88% or by 3.10% higher ($p < 0.001$), and during the lactation period 24.00%, or by 2.42% higher, compared to the control; so we can state that clinoptilolite supplementation affects moisture content in the faeces of females.

At rest, clinoptilolite affected the uptake of: organic matter 88.69% or by 1.92% ($p < 0.01$), crude protein 86.61% or by 1.12% ($p < 0.01$), and non nitrogenous extractives 91.41% or by 3.23% ($p < 0.001$) better compared with the absorption level of females that did not receive this supplement; during pregnancy clinoptilolite had no effects on nutrient absorption level, whereas during lactation it affected better absorption of: dry matter – 88.78%, or by 5.05% ($p < 0.001$) and crude ash 32.61%, or by 2.05% ($p < 0.001$) better compared to the nutrients absorption results obtained in the control group of females .

In the beginning of test, the chemical blood composition and morphological indices were within the normal range; after 2 month using the clinoptilolite at rest, the females blood contained 66.2 g L⁻¹ of total protein, or by 5.58% more, blood glucose 3.1 mmol L⁻¹, or by 16.22% less and 3.8 mmol L⁻¹ of cholesterol, or by 5.00 % less, and calcium – 2.6 mmol L⁻¹ or by 13.04 % more ($p < 0.001$); the highest levels of protein content in the blood of the females that received clinoptilolite additive were determined in the middle of the lactation period – 67.2 g L⁻¹, or more 5.99 % more compared to control; the determined glucose and cholesterol levels were lower; total bilirubin was within the normal range – 7.2 μmol L⁻¹ or by 20.00 % higher compared with the control; during the pregnancy, the chemical composition and morphological indices blood remained within the normal range; during this period, the established blood sugar level lowest in test group of females was lowest: 3.0 mmol L⁻¹.

Keywords: zeolite, clinoptilolite, chow, excrement, blood.