

THE EFFECTS OF EXTRUDED LUPINS (*LUPINUS SPP.*), FABA BEANS (*VICIA FABEA*) AND PEAS (*PISUM SATIVUM*) ON THE RUMINAL FLUID PARAMETERS IN DAIRY COWS

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Abstract. The aim of our research was to determine the influence of extruded lupins', extruded fodder beans and extruded peas on fermentation processes in the rumen of dairy cows. Lithuanian Black-and-White cows with analogous characteristics were selected and randomly allocated into 4 groups (control and experimental's), 10 animals each. The control group was fed a conventional diet consisting mainly of grass silage, ground barley grain, enriched extruded full fat soybean, and mineral premix. The experimental groups were fed a similar diet, but instead of 1.5 kg of soybean meal, the cows were given the same amount of the extruded lupins, extruded fodder beans and extruded peas. Raw material's for the trial was extruded by SC „Kauno Grūdai“. The samples were collected from three randomly selected animals of each group with a stomach tube (Sederevičius, 2000) 3 hours after the supplementary feeding with extruded lupins, extruded fodder beans and extruded peas. The rumen fluid was analyzed for the pH, total volatile fatty acid (VFA) content, total and ammonia nitrogen, reduction activity of bacteria and protozoa count. The results of this study shown that soybeans replacement with lupins (*Lupinus spp.*), fodder beans (*Vicia faba*) and peas (*Pisum sativum*) in dairy cows rations, had no negative influence on rumen's fermentative indexes and warranted it's optimal activity.

Keywords: extruded lupins, extruded fodder beans, extruded peas, dairy cows, rumen fluid