

Immunomodulating effect of Inter Yeast S on the non-specific and specific cellular and humoral immunity in lambs

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Abstract

The objective of this study was to determine the stimulating effect of the Inter Yeast S dietary supplement on selected parameters of specific and non-specific humoral and cellular immunity in lambs. The study involved 32 lambs aged 30±3 days, divided into two equal groups: I – control, and II – experimental. Experimental group animals were fed a C-J concentrate mixed with a prebiotic, the Inter Yeast S, commercially available, containing dried brewer's yeast *Saccharomyces cerevisiae* in the amount of 3 g/kg of the concentrate. At the beginning of the experiment (day 0) and on the 15th, 30th and 60th day of the study, blood was sampled from the jugular vein to determine selected parameters of biochemical, specific and non-specific humoral and cellular immunity in lambs (total protein levels, gamma globulin levels, lysozyme activity, ceruloplasmin activity, proliferative response of blood lymphocytes (MTT) after stimulation with LPS or ConA, the metabolic activity (RBA) and potential killing activity (PKA) of phagocytes). As regards humoral immunity parameters, significantly higher gamma globulin levels and higher lysozyme and ceruloplasmin activity were found in blood serum of experimental lambs administered the Inter Yeast S, compared with those determined in control lambs not fed the supplement. No statistically significant differences in serum total protein were found between the control and experimental groups. An analysis of cellular immunity indicators revealed significantly higher levels of RBA and PKA, and higher proliferative response of blood lymphocytes (MTT) after stimulation with LPS and ConA in the experimental group, compared with those observed in the control group.

Key words: lambs, Inter Yeast S, total protein levels, specific and non-specific humoral and cellular immunity parameters