PHYSIOLOGICAL CELL-MEDIATED IMMUNITY INDICATORS IN FARM HERBIVORES

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Key words: farm herbivores, *in vitro*, phagocytosis, leukocyte blast transformation

SUMMARY

In vitro carbon clearance assay and blast transformation assay were performed on randomly selected Romanian Spotted (n=8) milk cows, Romanian draft horses (n=8), and 9 semi-intensively bred Angora goats to monitor the phagocytic activity and specific-cell mediated immunity and the species influence on these immunological parameters. Phagocytic activity expressed as the negative of the optical density slope over time (ln) and stimulation indices (%) were calculated. The results showed that phagocytosis over time was decreasing in bovine and increasing in horses and goats, probably as a better adaptation to *ex vivo* stress. The blast transformation test indicated a higher sponatneous blast transformation index in bovine than in horses or goats, but the mitogenic PHA induced index was higher in the last two species.

Cell-mediated, innate or adaptive, immunity was overall poorer in bovine than in goats or horses, better adaptable to a potential microbial aggression.

EFFECTS OF CERTAIN VEGETAL EXTRACTIONS ON SPECIFIC CELL-MEDIATED ACTIVITY IN FARM HERBIVORES

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SUMMARY

Vegetal extractions' (*Calendula officinalis*, *Echinacea angustifolia* and *E. purpurea*) effects on specific cell-mediated reactivity was measured by the *in vitro* whole blood blast transformation test, applied as a micromethod on randomly selected Romanian Spotted (n=8) milk cows, Romanian draft horses (n=8), and 9 semi-intensively bred Angora goats. Stimulation/inhibition indices were calculated compared to the glucose concentration of the starting culture medium and expressed as consumption percentages. Mean values and standard deviations were calculated. t-Student test was used to evaluate the statistical significance of the differences.

The results showed that all the extraction showed inhibiting effects in bovine and goats, but not in horses, at the tested doses, when compared to the spontaneous mitogenic index. To some extent, the active principles of *Calendula officinalis*, proved to be stimulating when compared to the alcohol solvent induced mitogenesis.

The biological activity of the tested extractions was animal and plant species dependant, *Calendula officinalis* proving to better stimulate mitogenesis than *Echinacea* extractions.