

differences in body weight. However, no effects of body weight on the immune responses were seen. The effect of sire was highly significant ( $p \leq 0.001$ ) indicating a genetic influence on the immune response. The overall correlation between the primary and secondary response was for K88 antigen 0.76 and for 0149 antigen 0.15.

### **Heterogeneity of RNA transcription activities of immune cells of domestic animals**

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Nucleolus organizer regions were determined in cattle, pig, sheep, goat, dog, horse and chicken. The mapped genes were correlated to the nucleoli formed in peripheral blood lymphocyte interphases. A positive correlation was found between the number of nucleolar organizer regions per diploid genome and the nucleolar coefficient. Peculiarities of the different species concerning nucleolar formation and association/dissociation pattern is highlighted. The use in definition of immune cells in domestic animals in order to investigate cellular heterogeneity is pointed out.

### **Immunoglobulin levels in the blood serum of pigs as criteria of heredity and ontogenesis**

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Milk and blood immunoglobulins were analyzed in 22 young sows and in 24 older sows (DL). In addition, the blood immunoglobulin levels of two offsprings each were monitored. Older sows had higher total Ig-serum values than young sows. Their milk IgG and IgA contents also surpassed those of young sows, which however showed higher IgM contents. The initial serum pattern of the piglets mirrored the maternal Ig-secretions in the milk (passive immunization). After weeks 2-3 piglets of the young sows showed a steeper rise in the Ig production rate than piglets from older sows. They caught-on however during the fattening period and had arrived at higher IgA-levels when slaughtered.

A number of correlations between sow/piglet Ig patterns, fattening performance and carcass compositions will be reported.

### **Hypothermia in newborn lambs**

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Hypothermia, a low body temperature, is an important cause of mortality in newborn lambs in the U.K. There are two major causes of this condition : (1) Excessive heat loss