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HHM – Herd Health Management

VALUES OF HAEMATOLOGICAL PARAMETERS DEPENDING ON THE SEASON AND THE HUSBANDRY SYSTEM IN ORGANIC PIG FARMS

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Background and Objectives

There are many important reasons for determining haematological parameters in pigs: establishing a correct diagnosis, evaluating the health status of a pig and herd, early detection of diseases or poor growth performance. The ranges for most haematological parameters are quite wide and vary as they depend on many factors. The aim of the study was to determine whether the seasons and the type of husbandry influence the haematological parameters.

Material and Methods

The study was conducted on two organic farms. The study comprised 3 groups of pigs. In each group there were 20 pigs of the indigenous Slovenian Krškopolski pig breed. The animals were kept under different conditions. The first group was kept indoors, the second in the same place but outdoor together with cattle, the third group was moved to another location and kept outdoor together with sheep. At the beginning of the study, all growers weighed approximately 30 kg. Individual blood samples were taken from anterior vena cava. The complete blood count was determined on 185 individual blood samples. The samples were analyzed with an automatic analyzer, the scil Vet abc PlusTM. Statistical analyses of the hematologic data were performed using one-way analysis of variance (ANOVA) and Tukey's HSD test or Welch's t-test, depending on the results of Bartlett's test for homoscedasticity.

Results

The complete blood count changed in all three groups depending on the season. In most cases, the seasonal pairs summer-autumn, spring-autumn and autumn-winter differed significantly. The seasons had the greatest influence on WBC (103/mm3), RBC (106/mm3) and MCH (pg) and the least influence on MCHC (g/dl), PLT (103/mm3) and on the haematological values of the animals kept in the barn. Depending on the type of housing, the complete blood count generally did not differ significantly in fall. The largest statistically significant differences were found comparing different pig groups in summer, especially between outdoor and indoor housing.

Discussion and Conclusion

Seasons can influence hematologic parameters, as can housing type, especially comparing indoor and outdoor facilities. The differences between groups in complete blood counts were most pronounced in summer.