

# Values of Haematological Parameters Depending on the Season and the Husbandry System in Organic Pig Farms

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## 1 Background and Objectives

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.

## 2 Material and Methods

The study was conducted on an indigenous Slovenian breed: the Krškopolje pig. Sixty pigs were used in the study (N = 60), divided into three groups of twenty pigs. The first group (A) was reared indoors, the second (B) and third (C) groups were reared in outdoor systems, led by different farmers. The complete blood count was determined on 185 individual blood samples. The samples were analyzed with an automatic analyzer, the scil Vet abc Plus™. 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.

## 3 Results

The complete blood count changed in all three groups depending on the season.

The seasons had the greatest influence on WBC (103/mm<sup>3</sup>), RBC (106/mm<sup>3</sup>) and MCH (pg) and the least influence on MCHC (g/dl), PLT (103/mm<sup>3</sup>) 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.

## 4 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.



Figure 1. Group A – Krškopolje pigs, reared indoors (photo: J. Plut)



Figure 2. Group B – Krškopolje pigs, reared outdoors (photo: M. Štukelj)



Figure 3. Group C – Krškopolje pigs, reared outdoors (photo: M. Štukelj)

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